3.11 Cultural Resources and Native American Concerns

Cultural resources are locations of human activity, occupation, or use identifiable through field inventory (survey), historical documentation, or oral history. The term includes archaeological, historic, or architectural sites, structures, or places with important public and scientific uses, and may include locations (sites or places) of traditional, religious, and cultural importance to specified social and/or cultural groups. Cultural resources are material places and things that are located, classified, ranked, and managed through the system of identifying, protecting, and utilizing for public benefit.

3.11.1 Regulatory Background

3.11.1.1 Historic Properties

Federal historic preservation laws provide a legal framework for documentation, evaluation, and protection of cultural resources that may be affected by federal undertakings. NEPA states that federal agencies shall take into consideration impacts to the environment with respect to an array of resources, and that alternatives must be considered. The courts have made clear that cultural resources are regarded as part of the environment and are to be considered under NEPA. The NHPA of 1966, as amended, established the ACHP and the NRHP, and mandates that federal agencies consider an undertaking's effects on cultural resources that are listed or eligible for listing on the NRHP. Cultural resources listed on or eligible for inclusion on the NRHP are referred to as historic properties. It should be noted that unevaluated cultural resources or those requiring additional data are treated as eligible for inclusion on the NRHP until final eligibility is determined. For the purposes of this EIS, the term "historic properties" will be used to be consistent with historic preservation laws and regulations.

In addition to the NHPA, other federal historic preservation laws include, but are not limited to:

- The Antiquities Act of 1906 (16 U.S.C. 431-433), which was the first general law providing protection for archaeological resources. The Act protects all historic and prehistoric sites on federal lands and prohibits excavation or destruction of such antiquities without the permission (antiquities permit) of the secretary of the department having jurisdiction.
- The Archaeological Resources Protection Act (ARPA) of 1979 (16 U.S. C. 470aa-mm) was enacted ..."to secure, for the present and future benefit of the American people, the protection of archaeological resources and sites which are on public lands and Indian lands, and to foster increased cooperation and exchange of information between governmental authorities, the professional archaeological community, and private individuals" (Sec. 2(4)(b)). The Act makes it illegal to excavate or remove from federal or Indian lands any archaeological resources without a permit from the land manager. Major penalties for violating the law include both fines and imprisonment.
- National Trails System Act of 1968 (P.L. 90-543 as amended through P.L. 111-11, March 30, 2009) established a national trails system to promote preservation of, public access to, travel within, and enjoyment of the open-air, outdoor areas, and historic resources of the nation. Furthermore, the Act designated initial trail system components and established methods and standards for adding additional components.

The ACHP is authorized by Section 211 of the NHPA to issue regulations to govern the implementation of Section 106 of the NHPA. These regulations, "Protection of Historic Properties" (36 CFR Part 800), establish the process that federal agencies must follow in order to take into account the effects of their undertakings on historic properties and provide the ACHP its required opportunity to comment. Section 106 establishes a four-step review process by which historic properties are given consideration during the conduct of federal undertakings.

The four steps are as follows:

1. Initiate the Section 106 process by establishing the undertaking, defining the Area of Potential Effect (APE), and consulting with the appropriate parties, including federal agencies, SHPOs, ACHP, Native American Tribes, local governments, interested parties, and the public;
2. Identify historic properties through inventory and evaluation;
3. Determine effects to historic properties using the criteria of adverse effects found in 36 CFR 800.5; and
4. If adverse effects occur, take appropriate measures to avoid, minimize, or mitigate those effects.

Regulations in 36 CFR 800 outline the process through which historic preservation legislation under the NHPA is administered. Regulations in 36 CFR 800.14 allow federal agencies to adopt program alternatives to 36 CFR 800 and to tailor the Section 106 process to better fit agency procedures or a specific project. The most common program alternative is a Programmatic Agreement (PA), which is negotiated between the federal agency, SHPO, and ACHP (if they choose to participate). A PA for a complex project lays out the steps the agency, SHPO, Native American Tribes, and other consulting parties agree to take to consider and resolve any adverse effects the Project might have on historic properties. A draft PA among BLM, Western, USFS, ACHP, Bureau of Reclamation, BIA, NPS, USFWS, TWE, and the Wyoming, Colorado, Utah, and Nevada SHPOs currently is being developed as allowed in 36 CFR 800.14 b(1) (ii) when effects on historic properties cannot be fully determined prior to approval of the undertaking. The draft PA outlines general and specific measures the federal agencies will take to fulfill their objectives and responsibilities regarding the protection of historic properties under the NHPA. Western and the BLM will consult with Native American Tribes and other consulting parties on the PA.

As part of the PA process, the BLM and Western sent letters to local governments, organizations, agencies, interested parties, and Native American Tribes in September 2011 inviting them to be consulting parties to the agreement. In addition, these groups were invited to participate in an all-day meeting on October 18, 2011, in Salt Lake City, Utah, to discuss the Project, Section 106, NEPA, and development of the draft PA. These groups included the following:

- Oregon-California Trail Association (OCTA)
- Alliance for Historic Wyoming
- The Old Spanish Trail Association
- Moffat County
- Mesa County
- Utah Governor's Public Lands Policy Coordination Office (PLPCO)
- Church History Department of the Church of Jesus Christ of Latter Day Saints (LDS Church)
- Milford Archaeological Research Institute
- Mountain Meadows Association
- Mountain Meadows Descendents
- Mountain Meadows Monument Foundation
- National Trust for Historic Preservation
- Utah Rock Art Research Association
- Utah Professional Archaeological Council (UPAC)
- Huntington Eccles Scenic Byway
- Utah Statewide Archaeology Society (USAS)
- Archaeo-Nevada Society
- Nevada Rock Art Foundation
- Nevada Archaeological Association (NAA)
- Lincoln County Chapter of the NAA
- Clark County Cultural Site Stewardship Program
- National Park Service

See Section 3.11.4.3 for a list of the Native American Tribes who were invited to the October 18, 2011, meeting.

Representatives of the OCTA, USAS, LDS Church, PLPCO, and Mountain Meadows Massacre Descendents were able to attend the meeting on October 18, 2011, in Salt Lake City. Two additional groups (NPS and Alliance for Historic Wyoming) participated in the meeting via conference call.

Consulting parties are defined by the NHPA regulations as "certain individuals and organizations with a demonstrated interest in the undertaking [who] may participate as consulting parties due to the nature of their legal or economic relation to the undertaking or affected properties, or their concern with the undertaking's effect on historic properties" (36 CFR 800.2[c][5]). The regulations emphasize that the "views of the public are essential to informed Federal decision-making in the Section 106 process" (36 CFR 800.2[d][1]). Each of the consulting parties will be afforded an opportunity to participate in development of the draft PA and may be invited to participate as a concurring party. A concurring party concurs with the terms of the PA and may participate in implementing the stipulations of the PA or may benefit from the PA. It should be noted that consulting and concurring parties do not have authority to execute, amend, or terminate the PA; that authority is confined to the signatories (36 CFR 800.6[c][1]). For the Project, the signatories include BLM, Western, ACHP, USFS, Bureau of Reclamation, NPS, BIA, USFWS, TWE, and the Wyoming, Colorado, Utah, and Nevada SHPOs.

In addition to the organizations, local governments, interested parties, and agencies listed above, the BLM and Western have made a reasonable and good faith effort to identify and seek government-to-government consultation with federally recognized Native American Tribes with religious and cultural ties to the files search area that "attach religious and cultural significance to historic properties that may be affected by an undertaking" (Section 101[d][6][B] of the NHPA). "Such Indian Tribes shall be a consulting party" (36 CFR 800.2[c][2][B][ii]). Each of the Native American Tribes will be afforded an opportunity to participate in development of the draft PA and may be invited to participate as a concurring party. See Section 3.11.4.3 for a list of the Native American Tribes who have been invited to participate in development of the draft PA.

3.11.1.2 NRHP Criteria of Eligibility

Cultural resources are assessed for integrity and qualities that make the resources eligible for the NRHP, which provides for management and protection of these resources. There are three main standards that a cultural resource must meet to qualify for listing on the NRHP: age, integrity, and significance. To meet the age criteria, the resource generally must be at least 50 years old. To meet the integrity criteria, the resources must possess the applicable aspects of integrity, which may include: location, design, setting, materials, workmanship, feeling, and association. Finally, the resource must be significant according to one or more of the following criteria:

- Criterion A – Be associated with events that have made a significant contribution to the broad patterns of history;
- Criterion B – Be associated with the lives of persons significant in history;
- Criterion C – Embody the distinctive characteristics of a type, period, or method of construction, or represent the work of a master, or possess high artistic values, or represent a significant and distinguishable entity whose components may lack individual distinction; or
- Criterion D – Have yielded, or may be likely to yield, information important in prehistory or history.

Traditional Cultural Properties

If a cultural resource has been identified as having importance in traditional cultural practices and the continuing cultural identity of a community, it may be considered a traditional cultural property (TCP). The term "traditional cultural property" first came into use within the federal legal framework for historic preservation and cultural resource management in an attempt to categorize historic properties containing traditional cultural significance.

A TCP is defined as one that is eligible for the NRHP because of its association with cultural practices or beliefs of a living community that are: 1) rooted in that community's history and 2) important in maintaining the continuing cultural identity of the community (NPS 1998). To qualify for eligibility to the NRHP, a TCP must be more than 50 years old, must be a place with definable boundaries, must retain integrity, and must meet the criteria of eligibility as described above for cultural resources.

Examples of TCPs include:

- A rural community whose organization, buildings and structures, or patterns of land use reflect the cultural traditions valued by its long-term residents;
- An urban neighborhood that is the traditional home of a particular cultural group and reflects its beliefs and practices;
- A location where a community has traditionally carried out economic, artistic, or other cultural practices important in maintaining it historic identity; and
- A location associated with the traditional beliefs of a Native American Tribe about its origins, its cultural history, or the nature of the world (NPS 1998).

In addition to NRHP eligibility and TCP evaluation, places of cultural and religious importance to Native American Tribes also must be evaluated to determine if they should be considered under other federal laws or Executive Orders (EOs). These include, but are not limited to, the Native American Graves Protection and Repatriation Act (NAGPRA), American Indian Religious Freedom Act (AIRFA), and EO 13007 (Sacred Sites).

The NAGPRA established a means for Native Americans, including Indian Tribes, to request the return of human remains and funerary objects, sacred objects, or objects of cultural patrimony held by federal agencies or federally assisted museums or institutions. NAGPRA also contains provisions regarding the intentional excavation and removal of, inadvertent discovery of, and illegal trafficking in Native American human remains and sensitive cultural items.

The AIRFA established federal policy for protecting and preserving the inherent right of individual Native Americans to believe, express, and exercise their traditional religions including, but not limited to, access to sites, use and possession of sacred objects, and the freedom to worship through ceremonials and traditional rites.

EO 13007 requires federal agencies, to the extent practicable, permitted by law, and not clearly inconsistent with essential agency functions to: 1) accommodate access to and ceremonial use of Indian sacred sites by Indian religious practitioners, and 2) avoid adversely affecting the physical integrity of such sacred sites. It also requires agencies to develop procedures for reasonable notification of proposed actions or land management policies that may restrict access to or ceremonial use of, or adversely affect, sacred sites. Sacred sites are defined in EO 13007 as "any specific, discrete, narrowly delineated location on federal land that is identified by an Indian tribe, or Indian individual determined to be an appropriately authoritative representative of an Indian religion, as sacred by virtue of its established religious significance to, or ceremonial use by, an Indian religion; provided that the tribe or appropriately authoritative representative of an Indian religion has informed the agency of the existence of such a site."

Indian Trust Assets (ITAs) are legal interests in property held in trust by the U.S. for Native American Tribes or Native American individuals. The Secretary of the Interior, acting as the trustee, holds many assets in trust. Examples of objects that may be trust assets are lands, minerals, hunting and fishing rights, and water rights. While most ITAs are on reservations, they also may be found off-reservations. The U.S. has an Indian trust responsibility to protect and maintain rights reserved by or granted to Indian Tribes or Indian individuals by treaties, statutes, and EOs. These sources of trust responsibility are sometimes further interpreted through court decisions and regulations.

3.11.2 Data Sources

In winter and spring 2011, a cultural resource files search was conducted to identify all previously conducted archaeological investigations and previously recorded cultural resources within the 2-mile transmission line corridor (SWCA 2011a,b,c,d). During the first phase of the files search, cultural data were collected online through the individual SHPOs. The second phase of the files search included visits to relevant BLM and USFS field offices to collect information on sites not available online. Bureau of Reclamation offices responsible for administering lands crossed by the Project also were contacted regarding cultural resources previously recorded within their jurisdiction. Additional information was collected through review of General Land Office (GLO) survey plats and historic maps. All of the collected cultural resources information was incorporated into four individual reports submitted to the BLM, Western, Bureau of Reclamation, USFS, and SHPOs. The information provided in the files search reports was used to prepare Section 3.1.1.4, Baseline Description.

3.11.3 Analysis Area

The baseline information was compiled from the cultural resources files search, which covered a 2-mile-wide corridor along each alternative. For the environmental consequences section, the analysis focuses on the 250-foot-wide transmission line ROW, which is where most of the potential impacts would occur. The 2-mile-wide files search area was used for the baseline section to provide the reader with an overall cultural context of the region crossed by the proposed Project.

3.11.4 Baseline Description

Based on the files search data, cultural resources in the files search area have been classified according to one or more site types (e.g., lithic scatter, open camp, structure). Complete information may not be readily available during the original recordation to determine the functional or cultural site type. Consequently, some sites may be re-categorized after additional research or survey. Sites fitting into more than one category usually are more complex and have more information potential than do single-category sites. At the broadest level, cultural resources are categorized as either prehistoric or historic.

3.11.4.1 Prehistoric Resources

Prehistoric sites in the files search area represent a wide range of human activities. Most of the sites are surface manifestations of hunter-gatherer campsites, which represent repeated occupations over thousands of years. Other sites are buried and contain intact, stratified cultural components. A broad range of activities, including lithic reduction, animal butchering, plant processing, heating/cooking, and lithic procurement, are represented at prehistoric sites previously documented in the files search area. Less common sites intersected by the Project corridors are rock shelters, conical wooden structures, rock art, bison kill sites, burials, stone circles, cairns, and house pits. These sites typically are considered important to Native Americans Tribes.

Wyoming

South-central Wyoming has been broadly defined as the Northwestern Plains prehistoric culture area. There are six periods of human occupation in the Northwestern Plains that span approximately

12,000 years: Paleoindian (ca.12,000-7,500 Before Present [B.P.]), Early Plains Archaic (ca. 7,500-5,000 B.P.), Middle Plains Archaic (ca. 5,000-3,000 B.P.), Late Plains Archaic (ca. 3,000-1,500 B.P.), Late Prehistoric (ca. 1,500-300 B.P.), and Protohistoric (ca. 300-150 B.P.). Of the previously documented prehistoric sites, one yielded a radiocarbon date of 8,840 B.P., which falls within the Paleoindian period. In addition, two sites (lithic scatter and open camp) have Paleoindian components.

Archaic and Late Prehistoric period sites are more common within the files search area than Paleoindian sites. A total of 77 are dated to the Archaic and 45 to the Late Prehistoric. Most of the Archaic and Late Prehistoric sites are surface lithic scatters or open camps with one or more features, although stone circles, cairns, and potential sites of tribal importance also are present.

Lastly, two of the previously recorded prehistoric sites yielded radiocarbon dates that fall within the Protohistoric period. The first is a large site containing dated components ranging in age from the Early Archaic to the Protohistoric. Excavations conducted at the site revealed dozens of Archaic-period pit features and intact activity areas. The second site contained fur trade items such as gun parts, horse tack, trade jewelry, glass beads, and metal points.

Colorado

The Northern Colorado River Basin was used by a variety of Native American Tribes, which began with the Clovis hunter gatherers at the end of the Pleistocene and continued to European occupation of the area. Regional prehistory of the area is divided into the Paleoindian era (ca. 13,500-8,400 B.P.), Archaic era (ca. 8,400-2,400 B.P.), Formative era (ca. 2,400-700 B.P., which includes the Fremont tradition [ca. 2,000-700 B.P.], and Protohistoric era (ca. 700-130 B.P.). Of the previously recorded prehistoric sites, four within the Northern Colorado River Basin have provided radiocarbon dates and diagnostic artifacts, including bone beds associated with Paleoindian projectile points indicative of temporary human occupation prior to 7,500 B.P.

A total of 31 Archaic period sites have been previously recorded within the files search area, the majority of which are open camps and open lithic sites. A large number of the Archaic period sites that have undergone test excavations have yielded radiocarbon dates as early as 5,000 B.P. Open camps and lithic scatters constitute the majority of the 24 Formative era sites previously recorded in the files search area. Of the Formative era sites, several yielded architectural remains (e.g., stone circles) and rock art. Most of the Fremont sites in northwestern Colorado consist of open and sheltered artifact scatters, open and sheltered architectural sites, and rock art.

A total of 4 Protohistoric sites have been previously documented in the files search area. The majority of the previously recorded Protohistoric sites are open camps and open lithic scatters. Documented Protohistoric components have been located at open architectural sites, sheltered camps, rock art sites, a burial, and a trail (Ute Trail/Meeker Massacre Trail).

Utah

In general, the prehistory of the area is divided into eight time periods, some of which have associated phases. These periods are: Paleoindian (ca. 11,000-8,000 B.P.), Early Archaic (ca. 8,000-5,000 B.P.), Middle Archaic (ca. 5,000-3,000 B.P.), Late Archaic (ca. 3,000-2,000 B.P.), Terminal Archaic (ca. 2,000-1,500 B.P.), Formative (ca. 1,500-800 B.P. including both the Fremont Complex [ca. 1,500-800 B.P.] and Virgin River Anasazi Complex [ca. 1,600-800 B.P.]), and Late Prehistoric (ca. 800-200 B.P. including the Protohistoric Phase [ca. 500-150 B.P.], during which there was an expansion of Numic-speaking peoples [Ute, Shoshone, Paiute] into the region from the Mojave Desert area).

As a result of the files search, only 14 previously recorded sites were identified that fall within the Paleoindian period. These sites are categorized as sparse lithic scatters with temporally diagnostic flaked stone tools. A total of 255 Archaic period sites have been previously recorded in the files search

area. Most of the sites consist of lithic scatters, open and sheltered campsites, and lithic quarries. Several of the sites contain large amounts of ground stone and small to large thermal features with fire-cracked rock, which become more prevalent in sites dating to the Late Archaic.

The majority of the 709 identified Formative period sites are artifact scatters. Of the 709 sites, 18 exhibit evidence of long-term habitation, some of which are located in caves and rockshelters. Other identified Formative period sites include lithic and ceramic scatters, villages, Fremont mounds, rock art, lithic scatters with pit house remains, and burials.

Only 94 sites identified during the files search are dated to the Late Prehistoric or Protohistoric periods. The majority of the sites are open campsites, caves, and shelters. Of the 94 sites, one is a prehistoric rockshelter that was identified as a TCP by a Ute spiritual leader. A number of TCPs have been documented within an area encompassing a creek and associated canyon. The area, which contains rock art and human occupation sites, was identified as a sacred site by Southern Paiute tribal representatives during an ethnographic study. Although none of the TCPs are located within the files search area, the creek would be intersected by one of the alternatives.

Nevada

Although commonly grouped within the Great Basin culture area, a number of major prehistoric and Native American culture areas overlap in southeastern Nevada. Particularly in the period postdating A.D. 500, various cultural influences are evident in the region, include the Ancestral Puebloan (Anasazi), Patayan, Fremont, and Numic traditions. For purposes of synthesizing prehistoric culture history, a variant of the terminology used by Fowler and Madsen (1986) is presented here. For the early periods, the Fowler and Madsen chronology works well; however, for the later periods, several subdivisions are provided to summarize the diversity represented by the archaeological record in the Las Vegas area. This chronology divides prehistory into a Paleoarchaic Period (ca. 11,200-7,000 B.P.); Archaic Period (ca. 7,000-1,500 B.P.); Formative Period (ca. 1,500-800 B.P.), including the Virgin Anasazi, Patayan, Fremont, and Numic traditions; Late Prehistoric Shoshonean or Numic Period (ca. 800-400 B.P. [A.D. 1200-1600]); and Protohistoric Period (A.D. 1600-1826).

Paleoarchaic sites are rare, with only six sites containing components dated to this period. The components consist of lithic scatters, isolated projectile points, and a rockshelter. A total of 63 Archaic period sites, including caves and rockshelters, habitation sites, subsistence/resource extraction sites, rock art sites, milling assemblages, and lithic or artifact scatters, have been previously recorded in the files search area.

Archaeological traditions present in southern Nevada during the Formative Period include the Ancestral Puebloan (Anasazi), Patayan, Fremont, and Numic. A branch of the Anasazi culture, called the “Virgin Anasazi,” occupied the Moapa Valley and Virgin River area northeast of the Las Vegas Valley. “Patayan” refers to groups located primarily south of the Las Vegas and Ivanpah valleys to the lower Colorado River drainage and incorporates groups previously called “Yuman.” The Fremont complex extended into eastern Nevada as far south and west as the Pahranagat Valley (Madsen and Simms 1998). Typically, the Numic tradition is associated with the immediate ancestors of the historic Paiute and Chemehuevi people of southern Nevada. A total of 79 sites dating to the Formative Period have been previously documented in the files search area. Rockshelters, ceramic scatters, artifact scatters, roasting pit sites, and habitation sites comprise the site types.

A total of 46 previously recorded sites are dated to the Shoshonean or Numic period, 41 with Numic tradition components and 5 are affiliated with the Patayan tradition. Site types consist of rockshelters, ceramic scatters, campsites and roasting pits, and lithic scatters. Only four sites, consisting of lithic and artifact scatters, date to the Protohistoric Period.

Notable prehistoric sites previously recorded within the files search area include an NRHP-listed TCP dating to the Middle to Late Archaic periods and the NRHP-eligible Panaca Summit Archaeological District. The District contains over 70 prehistoric sites, including residential bases, short-term campsites, activity loci, and isolates ranging in age from approximately 5,500 B.P. to the Protohistoric Period.

3.11.4.2 Historic Resources

Historic resources are districts, sites, buildings, structures, or other objects that are associated with or convey some aspect of history, architecture, engineering, and/or culture. Historic resources in the files search area could be eligible for the NRHP if they relate directly to national, state, regional, or local themes such as exploration, transportation, communication, mining, ranching and farming, urban development, or government and political activity. Historic sites can be significant under Criteria A, B, C, or D. Examples of historic resources previously identified in the files search area include, but are not limited to, railroad construction camps, railroad alignments, debris scatters, mining activities, roads, trails, structures, ranches, homesteads, rock art, and stone cairns.

Wyoming

Approximately 122 historic sites and 72 historic components have been previously documented in the Wyoming files search area. Common sites types include railroad construction camps, mining sites, highways and trails, debris scatters, railroad alignments, structures, and habitations. Most notable of the historic sites are the Cherokee Trail, Overland Trail, Lincoln Highway, Rawlins to Baggs Road, Rock Springs to Browns Park Road, Stockgrowers Bank/Dixon Town Hall, and the Red Rock.

The Cherokee Trail is most commonly known for its use by the Cherokee emigrants as an alternative route to the Oregon Trail, but it also served as a transportation route for freight, cattle, and passengers between Utah and Colorado to the Union Pacific Railroad in Wyoming. A segment of the Cherokee Trail eventually became known as the Overland Trail, which was heavily used by emigrants and prospectors largely as an alternative route to the Oregon Trail. In southern Wyoming, the Union Pacific Railroad generally followed the route of the Overland Trail and ultimately rendered the Oregon and Overland trails obsolete. All subsequent major transportation developments would parallel the Union Pacific Railroad route. One of the most notable is the Lincoln Highway, which was the first transcontinental automotive travel-way developed in the U.S. The Cherokee and Overland trails as well as the Lincoln Highway all are eligible for inclusion on the NRHP; however, not all of their segments contribute to the overall NRHP eligibility of these resources.

Throughout the late nineteenth century and continuing into the first decades of the twentieth century, the Rawlins to Baggs Road, known alternatively as the Rawlins to White River Agency Road, was a primary stage and mail route connecting the White River Ute Indian Agency in present-day Rio Blanco, Colorado, to the railhead at Rawlins. During the 1800s, the Rock Springs to Browns Park Road traveled through the Jesse Ewing Canyon taking travelers to the Browns Park area of Utah. Both of the roads are eligible for inclusion on the NRHP. The Stockgrowers Bank/Dixon Town Hall is a single-story ornamented block structure with a canted façade within the Dixon township plat. Lastly, the Red Rock is one of several landmarks located along the Overland Trail and contains inscribed names of people who traveled along the trail. Both the Stockgrowers Bank/Dixon Town Hall and Red Rock are listed on the NRHP.

Colorado

Approximately 257 historic sites and 33 historic components have been previously documented in the Colorado files search area. The most common site types are railroad construction camps, railroad alignments, habitations, trails/roads, debris scatters, highways, and transmission lines. Review of GLO maps indicates numerous named and unnamed roads and ranches, houses, railroads, trails, irrigation ditches, telephone lines, mining operations, pipelines, and fences. The majority of the roads, telephone

lines, irrigation ditches, ranches, and homesteads are near the towns of Craig and Hayden and most likely are associated with the original establishment of these towns as a result of the Union Pacific Railroad first crossing southern Wyoming around 1868 and the Denver and Salt Lake Railroad reaching Craig in 1913.

Notable previously recorded historic sites within the files search area include the Thornburg Wagon Road, Baggs to Craig Road, Victory Highway (U.S. 40), Road to Browns Park, Meeker to Bear River Road, and Road from Lily Park to Maybell. The Thornburg Road, which is eligible for the NRHP, was constructed between 1877 and 1906 and served as an important transportation route for freight wagons between Maybell, Colorado, and Baggs, Wyoming. From the late 1870s to the 1920s, the Baggs to Craig Road was a major transportation route between the Union Pacific Railroad in Wyoming and Colorado communities. In Moffat County, there are two segments of the road that are eligible for the NRHP. The Victory Highway, which was established following WWI as a memorial to those who fought and died in the war, ran from Kansas City to San Francisco and for the most part follows the path of U.S. 40. Although, the Road to Browns Park, Meeker to Bear River Road, and Road from Lily Park to Maybell are not eligible for the NRHP, they provided a connection between local communities or to larger communities outside of the Region.

Utah

Approximately 721 historic sites and 61 historic components have been previously documented in the Utah files search area. Common site types include debris scatters, railroads, roads, canals and ditches, homesteads, mining sites, and telegraph lines. Notable historic sites in the files search area include, but are not limited to, the Old Spanish Trail, Mountain Meadows Massacre Site, Soldier Creek Kilns (NRHP-listed), Aspen-Cloud Rock Shelters (NRHP-listed), Red Creek Canal, Dry Gulch Creek Bridge (Old 593), Durfey Farmstead, Sorensen's Country Store, Aurora LDS Meetinghouse, Nebeker Adelman House, Emery Town Site, Helper Town Site, Denver & Rio Grande Western Railroad, Old U.S. Highway 6 and 50, and Modena Elementary School (NRHP-listed).

The Old Spanish Trail is a NHT that was established in the early 1800s as a trade, transportation, and communication corridor between Santa Fe and Los Angeles. Multiple variants of the trail allowed travelers to take alternative routes or shortcuts based on the time of year, weather, size of the traveler's caravan, or the traveler's preference (see Section 3.15, Special Designation Areas, for additional information on the Old Spanish Trail). Other notable travel routes in the Project vicinity include the Rivera Expedition of 1765 and the Dominguez-Escalante expedition that crossed the Uintah Basin and continued through southwest Utah in 1776.

The Mountain Meadows Massacre site is a National Register District. Portions of the District recently attained status as a National Historic Landmark (NHL). The District is the location of the September 11, 1857, massacre of 120 Arkansas emigrants by Mormon militiamen. There are two separate parcels within the larger site, each a known location of a significant event associated with the massacre. One of the parcels includes the encampment, siege, and monument, as well as the militia approach and exit routes. It's possibly a Paiute Indian camp site. The second parcel includes the site of the massacre and gravesites.

Also included in the Utah files search area are the Rock Art ACEC, Nine Mile Canyon ACEC, and Browns Park SRMA. The Rock Art ACEC is a collection of rock art sites encompassed in a 5,300-acre area. These sites represent some of the best examples of prehistoric rock art in the Colorado Plateau. Protection of these sites is afforded by the ACEC status, but some designated areas also are protected under Mexican Mountain and San Rafael Reef's WSA. Nine Mile Canyon ACEC is known for its many petroglyphs and pictographs, many of which were created by the Fremont culture and Ute people. In addition to rock art, cultural sites such as granaries, ancient village sites, pit houses, rock shelters, settlers' cabins, and ranches also have been identified within the canyon. Browns Park SRMA is

significant because of its high value scenery, wildlife habitats, and cultural resources, including some of the earliest visible cultural sites associated with the Fremont culture (see Section 3.14, Land Use, and Section 3.15, Special Designation Areas, for an expanded discussion of the ACECs and SRMA).

Nevada

Approximately 221 historic sites and 18 historic components have been previously documented in the Nevada files search area. Some of the historic components are affiliated with Native American, Chinese/Oriental, or Euro-American cultures. Common site types are railroad construction camps, railroad alignments, debris scatters, mining sites, highways, transmission lines, structures, ditches, trails, and habitations. Notable historic sites are the Old Spanish Trail, 48 historic-built environment resources, and five NRHP-listed historic or archaeological districts. As stated previously, the Old Spanish Trail had multiple variants that broke off of the main trail allowing travelers to take alternative routes or shortcuts. In southern Nevada, one of the well-traveled variants or routes became known as the Mormon Road.

The 48 historic-built environmental resources are all within or immediately adjacent to Boulder City, Nevada. These resources consist of residential homes, the Boulder City Pumping Station, Old Airport Hangar, and Lake Mead NRA Maintenance Warehouse Complex.

Boulder City Historic District, Sloan Canyon Petroglyph Site, Tule Springs Archaeological Site, Tule Springs Ranch, and Las Vegas Wash Archaeological District constitute the five NRHP-listed historic or archaeological districts located within the files search area. The Boulder City Historic District is Nevada's largest listing on the NRHP with 408 buildings. Sloan Canyon Petroglyph Site contains more than 300 rock art panels with 1,700 individually designed elements created by native cultures from the Archaic to historic era. The Tule Springs Archaeological Site contained extinct mammoth, bison, horse, ground sloth, and camel dating to 28,000 years ago that were recovered during excavations conducted in the 1930s, 1950s, and 1960s. Inside Floyd Lamb State Park is Tule Springs Ranch, which served as a watering hole for Native Americans and prospectors traveling across Nevada in the 1800s. The Las Vegas Wash Archaeological District falls primarily within the Clark County Wetlands Park and contains over 30 prehistoric and historic sites.

Also included in the files search area are the Sloan Canyon National Conservation Area/Sloan Rock Art ACEC, Rainbow Gardens ACEC, proposed Shooting Gallery ACEC, and proposed Pahroc Rock Art ACEC. The Sloan Rock Art District, which is listed on the NRHP, is a 1,920-acre ACEC within the North McCullough Wilderness Area consisting of prehistoric habitation and rock art sites. Rainbow Gardens (36,412 acres) was designated as an ACEC because of its high geological, scientific, scenic, cultural, and sensitive plant values. The proposed Shooting Gallery ACEC is located in Lincoln County and is a multi-component cultural landscape consisting of a large complex of scattered rock art sites in association with several well-developed habitation areas. The Pahroc Rock Art site, located in Lincoln County, is proposed as an ACEC based on the prehistoric values in the form of archaeological rock art and rock shelter sites. (see Section 3.14, Land Use, and Section 3.15, Special Designation Areas, for an expanded discussion of the Sloan Canyon National Conservation Area and Rainbow Gardens ACEC).

3.11.4.3 Native American Consultation

It is the responsibility of all federal agencies to comply with the requirements of Section 106 of the NHPA and the ACHP regulations when planning and carrying out their undertakings. In doing so, they are required to consult with Native American Tribes depending on the specifics of the undertaking. Such consultation with Native American Tribes is central to the Section 106 process. Consultation is defined in the ACHP regulations as "the process of seeking, discussing, and considering the views of other participants, and, where feasible, seeking agreement with them regarding matters arising in the Section 106 process" [36 CFR § 800.16(f)]. Other consultation statutory requirements include:

- EO 13175, Consultation and Coordination with Indian Tribal Governments, 63 FR 96 (November 6, 2000). EO 13175 was issued to establish regular and meaningful consultation and collaboration with tribal officials in the development of federal policies that have tribal implications. When implementing such policies, agencies shall consult with tribal officials as to the need for federal standards and any alternatives that limit their scope or otherwise preserve the prerogatives and authority of Indian tribes.
- Government-to-Government Relations with Native American Tribal Governments (Memorandum signed by President Clinton, April 29, 1994), 59 Federal Register 22951 (May 4, 1994). The Memorandum directs federal agencies to consult, to the greatest extent practicable and to the extent permitted by law, with tribal governments prior to taking actions that affect federally recognized tribal governments. Federal agencies must assess the impact of federal government plans, projects, programs, and activities on tribal trust resources and assure that tribal government rights and concerns are considered during such development.

For purposes of Section 106 compliance, tribal consultation for the Project began when a certified letter was mailed on July 20, 2010, to all federally recognized Native American Tribes either residing in or with cultural ties to the files search area as depicted in **Table 3.11-1**. The letter initiated formal government-to-government consultation, informed the Tribes of the proposed undertaking, and solicited their concern/comments regarding possible historical and/or traditional ties to the area or the presence of properties of traditional religious and cultural importance. Included in the letters were a Project map, response form, and return address stamped envelope. The response form and return address envelope were enclosed with the letters as a means to inform the BLM and Western if any of the Tribes wished to participate in the consultation efforts or had any concerns associated with the Project.

Table 3.11-1 Initial Contact with Federally Recognized Native American Tribes, July 20, 2010

Eastern Shoshone Tribe of the Wind River Reservation	Winnemucca Indian Colony of Nevada
Northern Arapaho Tribe of the Wind River Reservation	Yerington Paiute Tribe of the Yerington Colony & Campbell Ranch
Southern Ute Indian Tribe of the Southern Ute Reservation	Yomba Shoshone Tribe of the Yomba Reservation
Ute Mountain Tribe of the Ute Mountain Reservation	Fort Mojave Indian Tribe
Confederated Tribes of the Goshute Reservation	Hopi Tribe of Arizona
Northwestern Band of Shoshone Nation	Kaibab Paiute Tribe
Paiute Indian Tribe of Utah	Navajo Nation
Skull Valley Band of Goshute Indians of Utah	San Juan Southern Paiute Tribe
Ute Indian Tribe of the Uintah and Ouray Reservation	Jicarilla Apache Tribe
Shoshone-Bannock Tribes of the Fort Hall Reservation of Idaho	Pueblo of Acoma
Duckwater Shoshone Tribe of the Duckwater Reservation	Pueblo of Cochiti
Ely Shoshone Tribe of Nevada	Pueblo of Isleta
Fort McDermitt Paiute-Shoshone Tribe of the Fort McDermitt Indian Reservation	Pueblo of Jemez
Las Vegas Tribe of Paiute Indians of the Las Vegas Indian Colony	Pueblo of Laguna
Lovelock Paiute Tribe of the Lovelock Indian Colony	Pueblo of Nambe
Moapa Band of Paiute Indians of the Moapa River Indian Reservation	Pueblo of Picuris
Paiute-Shoshone Tribe of the Fallon Reservation and Colony	Pueblo of Pojoaque
Pyramid Lake Paiute Tribe of the Pyramid Lake Reservation	Pueblo of San Felipe
Reno-Sparks Indian Colony	Pueblo of San Juan
Shoshone-Paiute Tribes of the Duck Valley Reservation	Pueblo of Santa Ana
Summit Lake Paiute Tribe of Nevada	Pueblo of Santo Domingo

Table 3.11-1 Initial Contact with Federally Recognized Native American Tribes, July 20, 2010

Te-Moak Tribe of Western Shoshone Indians of Nevada	Pueblo of Tesuque
Walker River Paiute Tribe of the Walker River Reservation	Pueblo of Zuni
Washoe Tribe of Nevada & California	Chemehuevi Indian Tribe

Seven of the Native American Tribes responded to the initial consultation letter dated July 20, 2011 (Confederated Tribes of the Goshute Reservation, Duckwater Shoshone Tribe of the Duckwater Reservation, Ely Shoshone Tribe of Nevada, Las Vegas Paiute Tribe, Paiute Indian Tribe of Utah, Pueblo of Laguna, and Pueblo of Santo Domingo). A tribal member of the Ely Shoshone Tribe of Nevada requested copies of the Project maps, which were provided via email. The Las Vegas Paiute Tribe and Pueblo of Santo Domingo indicated on the response form that they did not require consultation at this time; however, they may request other opportunities to consult with the BLM and Western in the future. In their response, the Pueblo of Laguna indicated that the Project would not have a significant impact, but requested an opportunity to review any newly discovered archaeological sites and that photographs be taken of the sites. Face-to-face meetings with the BLM and Western were requested by the remaining three tribes (Goshute, Duckwater Shoshone, and Paiute Tribe of Utah).

On December 1, 2010, the BLM and Western met with the Tribal Council of the Paiute Tribe of Utah during their scheduled council meeting to provide a presentation on the Project. A large format map showing the proposed route and alternatives was displayed during the presentation. Council members had questions regarding construction of the transmission line and asked if there was a Project website where they could find additional Project information; the BLM provided the Council members with the website. At the end of the meeting, the Council provided the BLM and Western with the appropriate tribal contact for any future correspondence. To date, no other meetings have been held with the Paiute Tribe of Utah.

The BLM and Western met with the Duckwater Shoshone and Ely Shoshone tribes in Ely, Nevada, on January 12, 2011, to present an overview of the Project. At the start of the meeting, the Tribal chair stated that the meeting was an informational meeting and not considered government-to-government consultation because not all of the Tribal council was present. The tribes had questions regarding the status of the cultural resources investigations and selection of the cultural contractor. Railroad Valley was mentioned as an area of concern by several tribal members. At the end of the meeting, the Tribes requested large-scale maps of the Project where it would cross or be close to their tribal lands. Following the meeting, the BLM delivered the maps to the tribes. To date, no other meetings have been held with the Duckwater Shoshone and Ely Shoshone tribes.

On January 19, 2011, the BLM telephoned the Confederated Tribe of the Goshute Reservation to discuss their request for a face-to-face meeting. During the call, the BLM provided additional information on the Project, in particular, the location of the proposed transmission lines. Since the proposed location of the transmission line would not be within Goshute Tribal lands, the tribal Administrator indicated there was no need for additional information or a face-to-face meeting.

In late September 2011, a second set of letters was sent to the Native American Tribes listed on **Table 3.11-1** inviting them to participate in development of the draft PA. The letters included details of the Project, a description of historic properties identified through the files search, and information on an upcoming meeting on October 18, 2011, in Salt Lake City, Utah, to discuss the PA process. Enclosed with the letters was a Project map and a flyer with specific information regarding the date, time, and location of the meeting in Salt Lake City. Only the Hopi Tribe responded to the second letter. The Hopi are interested in ongoing consultation on the Project and requested copies of the cultural resources

inventory report and any proposed treatment plans for review and comment. In addition, the Hopi requested an ethnographic overview of the Project area.

Follow-up calls to all of the Native American Tribes were conducted after the second set of letters to verify receipt of the letters and to ask if a tribal representative would be attending the October 18 PA meeting in Salt Lake City. None of the Tribes attended the October 18 meeting in Salt Lake City.

On December 21, 2011, and January 4, 2012, letters were sent to the Native American Tribes listed in **Table 3.11-1** inviting them to attend the Rapid Response Transmission Team (RRTT) meetings held on:

- January 9, 2012, in Cheyenne, Wyoming;
- January 10, 2012, in Denver, Colorado;
- January 11, 2012, in Las Vegas, Nevada; and
- January 12, 2012, in Salt Lake City, Utah.

The BLM and Western, on behalf of the RRTT, held these meetings to help the RRTT better understand the Project as the RRTT worked to expedite and improve the federal government's evaluation of transmission line applications. Representatives from the RRTT who attended the meetings included the BLM Deputy Chief of Staff, Department of Energy-Renewable Energy Senior Advisor, Department of the Interior Special Assistant to the Counselor, and BLM Rights-of-Way Branch Chief. A conference line (call-in number) was provided to those who were unable to attend the meetings in person. None of the invited Native American Tribes attended the meetings.

On April 19, 2012, the BLM and Western held an online conference call to discuss the status of the draft PA. The consulting parties listed in Section 3.11.1.1 and the Native American Tribes listed in **Table 3.11-1** were invited to participate on the conference call. None of the invited Native American Tribes participated on the call.

At the request of the Ute Tribal Council, the BLM and Western attended a Ute Tribal Council Meeting on May 31, 2012, and met with the Ute Mountain Ute Tribe, Southern Ute Tribe, and Ute Indian Tribe of the Uintah and Ouray Reservation to discuss the Project. The BLM and Western gave a presentation of the Project and answered questions from the Tribes. In general, the questions focused on Project components, tribal consultation, BIA responsibilities, and ROWs on tribal lands. The Ute Mountain Ute were concerned about Project impacts to human remains, cultural landscapes, TCPs, and sacred sites.

Western and the BLM attended another Ute Tribal Council meeting on August 28, 2012. During this meeting, detailed Project maps of the 2-mile transmission line corridors, a Project description, and a schedule for completion of the draft EIS were presented to the Council members. As requested by the Council, Western and the BLM also met with the Ute Tribe's Energy and Minerals Department. Project information, a Project map, and contact information were left with the Council members and the Energy and Minerals Department. To date, no other meetings have been held with the Ute Tribal Council.

On November 8, 2012, the BLM and Western held an online conference call to discuss the status of the draft PA. The consulting parties listed in Section 3.11.1.1 and the Native American Tribes listed in **Table 3.11-1** were invited to participate on the conference call. None of the invited Native American Tribes participated on the call.

On November 26, 2012, the BLM and Western sent letters to five additional pueblos as part of the consultation process. The five pueblos included the Pueblo of San Ildefonso, Pueblo of Santa Clara, Pueblo of Sandia, Pueblo of Taos, and Pueblo of Zia. Included in the letters were a Project map, response form, and return address stamped envelope. The letters included information on the Project,

APE, PA process, and historic properties identified as a result of the files search. None of the contacted pueblos responded to the letters.

To date, no places of traditional religious and cultural importance to the contacted Native American Tribes have been identified in or near the files search area through the government-to-government consultation efforts. Concerns expressed by the Tribes have been with human remains, TCPs, cultural landscapes, and sacred sites. Opportunities for the identification of locations of possible traditional religious and cultural importance that may be affected by the Project, as well as opportunities for the Tribes to express their concerns would remain open throughout the consultation process, which currently is ongoing and would continue through construction.

3.11.5 Regional Summary

Tables 3.11-2 and **3.11-3** summarize the cultural types and eligibility status by region and state of those sites identified through the files search, GLO review, visits to the BLM and USFS field offices, and contacts with the Bureau of Reclamation. **Table 3.11-2** summarizes the findings for those sites located within the 2-mile-wide files search area; whereas, **Table 3.11-3** summarizes the findings for those sites located within the 250-foot-wide transmission line ROW.

Table 3.11-2 Site Types and NRHP Status by Region and State within the Files Search Area (2-mile Transmission Line Corridor)

Site Types and NRHP Status by Region and State - 2-Mile Corridor									
	Summary of Site Types					Summary of NRHP Status			
State	Prehistoric Sites	Historic Sites	Multi-component Sites	Potential TCPs[1,2]	No Information	Listed	Eligible for Listing	Not Eligible	Unevaluated
Region I									
Wyoming	1,455	122	145	14	91	2	447	858	506
Colorado	408	44	26	7	5	0	59	321	103
Region II									
Colorado	693	213	41	49	27	2	73	693	206
Utah	1,417	694	104	144	53	2	788	1,062	416
Region III									
Utah	530	27	18	27	22	0	284	235	78
Nevada	763	103	20	188	122	0	150	563	295
Region IV									
Nevada	231	118	17	117	11	7	88	205	77

[1] In general, sites in which Native American Tribes attach traditional religious and cultural significance are referred to as "TCPs" by the Tribes. TCPs can include, but are not limited to, stone cairns, stone circles, rock shelters, rock art, prehistoric campsites, and village sites. At this time, no tribal consultation regarding verification of these sites as TCPs or other sites of importance to the Tribes has occurred. Until consultation with Native American Tribes to evaluate these sites has occurred, these sites are considered "potential TCPs" based on their site type and description.

[2] All of the potential TCPs are also prehistoric sites. As such, they are counted twice in the site totals.

Sources: SWCA 2012a-e, 2011a-d.

Table 3.11-3 Site Types and NRHP Status by Region and State within the 250-foot Transmission Line ROW

Site Types and NRHP Status by Region and State – 250-foot ROW									
	Summary of Site Types					Summary of NRHP Status			
State	Prehistoric Sites	Historic Sites	Multi-component Sites	Potential TCPs[1,2]	No Information	Listed	Eligible for Listing	Not Eligible	Unevaluated
Region I									
Wyoming	124	33	36	0	27	0	86	83	51
Colorado	48	5	5	12	0	0	20	34	4
Region II									
Colorado	60	38	6	12	4	2	34	42	30
Utah	116	152	17	16	13	0	144	135	19
Region III									
Utah	81	19	4	2	8	0	72	28	12
Nevada	63	23	2	19	12	1	25	42	32
Region IV									
Nevada	27	60	1	23	1	2	41	29	17

[1] In general, sites in which Native American Tribes attach traditional religious and cultural significance are referred to as "TCPs" by the Tribes. TCPs can include, but are not limited to, stone cairns, stone circles, rock shelters, rock art, prehistoric campsites, and village sites. At this time, no tribal consultation regarding verification of these sites as TCPs or other sites of importance to the Tribes has occurred. Until consultation with Native American Tribes to evaluate these sites has occurred, these sites are considered "potential TCPs" based on their site type and description.

[2] All of the potential TCPs are also prehistoric sites. As such, they are counted twice in the sites totals.

Sources: SWCA 2012a-e, 2011a-d.

3.11.6 Impacts to Historic Properties and Sites of Native American Concern

The impact files search area for historic properties and Native American concerns is the APE. Under Section 106 of the NHPA, the APE is defined as "those areas in which impacts are planned or are likely to occur. Specifically, the APE is defined as the geographic area or areas within which an undertaking may directly or indirectly cause changes in the character or use of historic properties, if any such properties exist. Additionally, the APE is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking (36 CFR 800.16[d])."

Per the draft PA and for purposes of this EIS, the APE for direct effects is the area within which historic properties may sustain physical alteration or destruction as a result of the Project. The APE for direct effects is limited to the area of potential ground disturbance by activities related to the Project that may directly cause alterations in the character or use of historic properties.

The APE, as currently defined, encompasses an area sufficient to accommodate all of the Project components under consideration. The APE may be modified when tribal consultation, additional field research or literature review, consultation with consulting parties, or other factors indicate that the qualities and values of historic properties that lie outside the boundaries of the currently defined APE may be affected directly, indirectly, or cumulatively.

If the BLM determines that the Project or changes to the Project may cause unforeseen direct, indirect, or cumulative effects to historic properties beyond the extent of the established APE, then the BLM may use the process set forth in the PA to determine whether to modify the APE.

The APE for indirect effects on historic properties considers visual, audible, and atmospheric elements that could diminish the integrity of properties for which setting, feeling, and/or association are qualifying characteristics of NRHP eligibility. The indirect APE for the Project extends for five miles on either side of the transmission line centerline or to the visual horizon, whichever is closer. Where the indirect APE includes TCPs, NHLs, NHTs, or other classes of historic properties for which setting contributes to eligibility, additional analyses may be required and the indirect APE may need to be modified accordingly, as it may extend beyond the five-mile convention when effects have been determined to extend beyond this distance.

Cumulative effects include reasonably foreseeable effects caused by the Project that may occur later in time, be farther removed in distance or be cumulative [(36 C.F.R. part 800.5(a)(1)]. For purposes of this EIS and per the draft PA, the APE for cumulative effects is the same as described for direct and indirect effects.

Impacts to historic properties, including TCPs and properties of traditional religious and cultural importance to Native Americans, were evaluated for each alternative using the following methods:

- The analysis of potential direct and indirect impacts was based on review of existing files and information obtained from the Wyoming, Colorado, Utah, and Nevada SHPOs, BLM, USFS, and Bureau of Reclamation, and by review of GLO maps.
- Potential effects were quantified where possible. Where quantitative data are unavailable, best professional judgment or qualitative assessments were used to describe impacts.

To date, no Class III pedestrian inventories have been conducted for the Project. Once the final route has been selected and the ROD has been issued, an intensive Class III inventory of previously uninventoried areas would be conducted to identify historic properties in the APE. A combination of inventory and consultation would be used to determine the presence of historic properties within the APE. In recognition of their particular expertise, Native American Tribes and their designated representatives would be consulted to establish the locations and significance of properties of traditional religious and cultural importance to the Tribes. The BLM would be responsible for reviewing the results of the inventories, determine NRHP eligibility, assess effects, and seek resolution of adverse effects in consultation with Western, the SHPOs, USFS, Bureau of Reclamation, NPS, USFWS, Native American Tribes, and other consulting parties.

In addition to the pedestrian inventory, an in-depth visual analysis along the final route would be conducted to accurately identify whether any historic properties, including properties of traditional religious and cultural importance in which setting contributes to their eligibility, would be visually impacted by the Project. In addition to properties of traditional religious and cultural importance, sacred sites or other sensitive sites identified by Native Americans during consultation also may require visual analysis. The analysis would include on-the-ground verification of historic property/tribal site locations, as well as verification of Project visibility from the historic property or site. In some instances it may be necessary to set up a Key Observation Point (KOP) at the location of the historic property or site to observe and analyze the visibility of aboveground Project facilities during different times of day and during different weather conditions (e.g., cloudy versus sunny skies). Results of the analysis would be used to determine the magnitude of visual effects to the setting of historic properties or sites from which aboveground Project facilities are visible.

Although no Class III inventories or in-depth visual analyses have been conducted to date for the Project, the EIS analysis of impacts to the Old Spanish Trail, which is a congressionally designated NHT, was supplemented with data obtained from the National Historic Trails Inventory (AECOM 2012). The inventory was not conducted for the Project, but was a separate endeavor conducted by the BLM using Recover Act funding and staff resources to develop and apply new inventory and management

tools that include consistent standards for trail resource documentation, protection, use, and preservation. BLM's National Trails Inventory was a significant undertaking to document national historic trail settings, record trail attributes and resources, create trail information archives, and manage trail data. The inventory's goal was to: 1) understand the resources associated with each trail, which meant determining where the route lies in some instances; 2) determine where physical traces or archaeological resources are present; and, 3) evaluate settings where trail segments are located and identify those locations where historic integrity and scenic quality have been maintained. A total of six NHTs across the western U.S. were investigated as part of the inventory. Of these six trails, only the Old Spanish Trail is located within the impacts analysis area. The Cherokee and Overland trails, which also are located in the impacts analysis area, currently are being evaluated for inclusion in the NHT system.

In general, primary issues identified by federal and state agencies during previous NEPA transmission line analyses that are related to the Project include:

- Construction of the transmission line and associated facilities could adversely affect historic properties such as prehistoric or historic archaeological sites, districts, buildings, structures, roads and trails, and objects.
- Previously undiscovered cultural resources, including burials and associated funerary objects, could be discovered and adversely affected during ground-disturbing activities associated with construction.
- Unauthorized artifact collection and/or vandalism.
- Introduction of visual or auditory elements that diminish the integrity of a historic property's setting.

Issues identified at the public scoping meetings included:

- Potential impacts to the Mountain Meadows Massacre site and Mountain Meadows NHL.
- Potential impacts to the Old Spanish Trail and Overland and Cherokee trails.
- Potential impacts to the archaeological resources within the Adobe Town WSA.

For purposes of this EIS, impacts are considered significant if management actions result in adverse effects to the qualities that make a property eligible for inclusion in the NRHP or considered important to Native American Tribes as measured by:

- Physical destruction or alteration of a property or relocation from its historic location;
- Isolation or restriction of access;
- Change in the character of the property's use or of physical features within the property's setting, or the introduction of visible, audible, or atmospheric elements that are out of character with the significant historic features of the property;
- Neglect that leads to deterioration or vandalism; and
- Transfer, sale, or lease from federal to non-federal control, without adequate and legally enforceable restrictions or conditions to ensure the preservation of the historic significance of the property.

3.11.6.1 Impacts from Terminal Construction and Operation

Northern Terminal

Construction of the Northern Terminal would result in 504 acres of ground disturbance. Surface disturbance activities associated with the terminal would include pre-development geotechnical sample drilling and site development, which would involve vegetation clearing, grading, and facility construction. Construction-associated surface disturbance would include land cleared for storage areas, a concrete batch plant site, temporary work areas, and pulling, tensioning, and splicing sites. Operation surface disturbance would include footprints of the access roads, the footprints of the station facilities, and installation of the perimeter fence. The types of direct, indirect, and visual impacts to historic properties that could occur during construction and operation of the terminal would be the same as discussed in Section 3.11.6.2, Impacts Common to Alternative Routes and Associated Components.

No previously recorded cultural resources were identified within the proposed location of the Northern Terminal. Prior to construction, a Class III pedestrian inventory would be conducted for the proposed location of the terminal. If historic properties, including TCPs and properties of traditional religious and cultural importance are identified within proposed disturbance areas and would be adversely affected, the property would be avoided through Project redesign. However, if avoidance is not feasible, adverse effects would be minimized or mitigated as stipulated in the draft PA and through implementation of design features. Any previously unknown cultural resources (other than isolates) discovered during construction and operation activities would be handled as detailed in the draft PA (see Section 3.11.6.2 for additional details regarding the draft PA).

Summary: Unavoidable adverse effects to historic properties that may be located within the disturbance area of the Northern Terminal would be minimized or mitigated as stipulated in the PA and through implementation of design features. Unanticipated discoveries would be handled as stipulated in the PA. As such, no adverse effects to known and unknown historic properties would be anticipated as a result of constructing and operating the Northern Terminal.

Southern Terminal

Construction of the Southern Terminal would result in 412 acres of ground disturbance. Surface disturbance activities and site clearing associated with the Southern Terminal would be identical to those associated with the Northern Terminal. Potential direct, indirect, and visual impacts to historic properties as a result of constructing and operating the Southern Terminal would be the same as described in Section 3.11.6.2, Impacts Common to All Alternatives and Project Components.

As a result of the files search, only one previously recorded isolated artifact was identified within the proposed location of the Southern Terminal. As described for the Northern Terminal, a Class III inventory would be conducted prior to construction. If historic properties are identified as a result of the inventory, the properties would be avoided. If avoidance is not feasible, adverse effects would be minimized or mitigated as stipulated in the draft PA and through implementation of design features.

Summary: Unavoidable adverse effects to historic properties that may be located within the disturbance area of the Southern Terminal would be minimized or mitigated as stipulated in the PA and through implementation of design features. Unanticipated discoveries would be handled as stipulated in the PA. As such, no adverse effects to known and unknown historic properties would be anticipated as a result of constructing and operating the Southern Terminal.

Design Option 2

The impacts of constructing and operating Design Option 2 would be similar to those discussed under the alternative routes because the implementation of this design would utilize the same alternative

routes and construction techniques. Differences between this design option and the Project include the locations of the southern converter station and ground electrode system as well as the addition of a series compensation station midway between the IPP and Marketplace. The southern converter station would be located near the IPP in Utah instead of at the Marketplace in Nevada and the ground electrode system would be within 50 miles of the IPP. Potential adverse effects to known and unknown historic properties would be the same as described in 3.11.6.2, Impacts Common to All Alternative Routes and Associated Components. The same design features and stipulations outlined in the draft PA would be implemented to minimize or mitigate potential adverse effects to known and unknown historic properties associated with Design Option 2.

Design Option 3

Implementation of Design Option 3 would utilize the same alternative routes, facilities, and construction techniques as the Project; therefore, impacts from construction and operation of this design option would be the similar to those discussed under the alternative routes. Differences between this design option and the Project include the construction of an interim substation and connection at IPP and a series compensation station midway between Sinclair, Wyoming and IPP. These would operate during Phase I of the design option as described in Chapter 2.0. The series compensation station would be located adjacent to the transmission line; therefore impacts are disclosed within the description of the Project routes. Potential adverse effects to known and unknown historic properties would be the same as described in Section 3.11.6.2, Impacts Common to All Alternative Routes and Associated Components. The same design features and stipulations outlined in the draft PA would be implemented to minimize or mitigate impacts to known and unknown historic properties associated with Design Option 3.

3.11.6.2 Impacts Common to All Alternative Routes and Associated Components

Construction Impacts

Ground-disturbing activities, such as installation of the transmission line foundations and anchors; construction of new access roads and upgrade of existing access roads; construction of electrical substations and other ancillary facilities; and, use of temporary work areas and staging areas for storing equipment and supplies would have the potential to directly impact historic properties, including TCPs and properties of traditional religious and cultural importance to Native American Tribes. These physical impacts could occur to both known sites and subsurface sites and could result in the vertical and horizontal displacement of soil containing cultural materials, damage to or destruction of artifacts and features, and loss of archaeological data.

Other potential effects associated with the Project could include off-road vehicle traffic associated with construction and erosion due to construction activities, soil compaction, or vegetation removal. In addition, vandalism, inadvertent damage, or illegal artifact collection could occur as a result of increased access via newly constructed roads and numbers of construction personnel working within and adjacent to the 250-foot-wide transmission line ROW. New road construction would make sites more accessible and studies have shown most site vandalism happens near roads. The presence of more people in the construction zone may lead to artifact collection during work breaks or after hours.

Visual impacts to historic properties (as well as cultural /historic landscapes) where setting is an aspect of integrity could occur as a result of introducing visual elements out of character with a property located within the visual APE. Introduction of structures such as the proposed transmission line and associated towers into an otherwise rural or natural setting could diminish the integrity of a property's features that contribute to its significance. Assessment of effects (including visual effects) on historic properties is based in part on the evaluation of integrity. According to the NRHP guidelines, integrity is defined as the ability of an historic property to convey its own significance; evaluations of integrity must always be grounded in an understanding of a property's physical features and whether they remain sufficiently

intact to convey its significance. A historic property's integrity includes seven unique aspects: location, setting, design, materials, feeling, workmanship, and association. Based on these aspects, the types of sites considered visually sensitive include, but are not limited to, National Historic Monuments, Districts, Landmarks, and Trails; sites eligible under criteria A, B, or C; and TCPs.

During public scoping, concerns were expressed regarding possible direct and visual impacts to the Cherokee and Overland trails, Old Spanish Trail, Mountain Meadows Massacre Site and Mountain Meadows NHL, and Adobe Town WSA. The Cherokee and Overland trails would be crossed by the alternatives in Wyoming; whereas, the Old Spanish Trail would be crossed by the alternatives in Utah and Nevada. In Wyoming, there are two routes of the Cherokee Trail, a northern route and a southern route. The northern route has been erased and no visible remnants remain; therefore, the EIS analysis focuses on the southern route. It should be noted that the NPS guidelines disqualify cultural sites listed under the NRHP when their physical features are no longer visible (NPS 2002). Although none of the alternatives cross the Mountain Meadows Massacre Site and Mountain Meadows NHL, there were concerns about visual effects to the site and possible disturbance to unmarked graves that may be located outside of the site's boundary. The Adobe Town WSA is located more than 6 miles from the alternatives; therefore, no impacts to historic properties located in the WSA would be anticipated.

The potential for the discovery of unanticipated historic properties during construction activities exists within proposed disturbance areas and could result in an adverse effect. Unanticipated discoveries could result in displacement or loss (either complete or partial) of the discovered cultural material. Displacement of cultural material affects the potential to understand the context of the property and limits the ability to extrapolate data regarding prehistoric settlement and subsistence patterns. Potential impacts to unanticipated discoveries could be greater than impacts to properties previously identified because damage to unanticipated discoveries occurs prior to their recordation and evaluation, thereby complicating mitigation procedures.

Resolution of Construction Impacts

To date, the number of historic properties that would be adversely affected by the Project is unknown. As stipulated in the draft PA, an intensive Class III pedestrian inventory would be required after the final route is selected by the BLM and Western. The pedestrian inventory of the final route would be completed prior to construction and with enough lead time to allow for NRHP evaluation of identified sites, impact assessments, and resolution of adverse effects, if necessary. The inventory would be performed regardless of land ownership. All cultural resources located within the APE would be evaluated for eligibility to the NRHP and for Native American traditional religious and cultural importance in consultation with Native American Tribes.

Per the draft PA, the BLM Wyoming State Office is lead for compliance with Section 106 of the NHPA on behalf of the federal agencies (36 CFR 800.2(a)(2)), as evidenced by the Memorandum of Understanding between BLM and Western. In consultation with Western, the four SHPOs (Wyoming, Colorado, Utah, and Nevada), USFS, Bureau of Reclamation, Native American Tribes, and other consulting parties, the BLM would determine whether construction and operation of the Project would have an adverse effect on any historic properties, including TCPs and properties of traditional religious and cultural importance to Native American Tribes. If the BLM determines that a property would be adversely affected, mitigation would be proposed to minimize or mitigate those effects in accordance with the PA. Mitigation to minimize or mitigate adverse effects may include, but would not be limited to, one or more of the following measures:

- Data recovery, which might include the systematic professional excavation of a historic property;
- Use of landscaping or other techniques that would minimize or eliminate visual effects to a property's setting;

- Development of interpretive materials (e.g., historic markers, exhibits, interpretive brochures, or publications);
- Historic American Buildings Survey/Historic American Engineering Record or other agreed upon historic recordation process; or
- Other mitigation determined by the BLM through consultation with Western, the SHPOs, USFS, Bureau of Reclamation, Native American Tribes, and other consulting parties.

Mitigation measures would be based on the types of impacts relevant to the site type and to the scope and nature of the impact. Per the draft PA, unavoidable adverse effects to historic properties, including TCPs and properties of traditional religious and cultural importance, would be minimized or mitigated through implementation of a historic properties treatment plan (HPTP). The HPTP would address the property adversely affected and set forth means to minimize or mitigate the Project's effects. A detailed description of treatment proposed for historic properties, including TCPs and properties of traditional religious and cultural importance, as well as the rationale would be provided in the plan. Proposed treatment also would take into account visual and auditory effects to a property's setting where those aspects of integrity help convey its significance. If data recovery is the preferred treatment option for a site, then the BLM would ensure that the developed treatment is based on an appropriate research design and is reviewed and approved by Western, the SHPOs, USFS, Bureau of Reclamation, Native American Tribes, and other consulting parties.

Visual impacts to historic properties where setting contributes to their NRHP eligibility and from which the Project would be visible would be determined through viewshed analysis, on-site inspection, and photo inspection. The analysis also may be conducted for sites identified by tribal representatives as those sites in which visual impacts could occur. The viewshed analysis would be used to determine which physical feature of the Project would be visible from a property for which setting is an important aspect of integrity. Non-specular conductors and shield/ground wires would be used as a design feature to reduce potential visual effects (see applicant-committed design features in **Appendix C**, **Table C-2**). Adverse effects to the integrity of a property's setting would be minimized or mitigated as stipulated in the draft PA and HPTP.

Based on the proposed surface water control system and implementation of erosion control measures, potential effects to historic properties located within and outside of the APE as a result of drainage or soil erosion are anticipated to be minor (see design features in **Appendix C**, **Table C-2**).

To minimize the potential for illegal collection, vandalism, and inadvertent damage associated with increases in the number of construction personnel in the construction zone, Project personnel would be instructed on the federal, state, and tribal laws that protect historic properties, including prohibition of collection and removal of cultural material (see applicant-committed design features in **Appendix C**, **Table C-2**). To minimize impacts associated with off-road vehicles, construction and maintenance traffic outside of the ROW normally would be restricted to pre-designated access or public roads as stipulated in the applicant-committed design features (**Appendix C, Table C-2**).

As provided in the PA, if any previously unknown archaeological sites are discovered during construction, all construction activities would cease in the area of the discovery, and the BLM or applicable land management agency would be notified of the find. The BLM would implement an Inadvertent Discovery Plan, which would be developed prior to issuance of a Notice to Proceed. The plan would be included as an appendix to the HPTP.

Per the PA, Native American human remains, funerary objects, and items of cultural patrimony encountered on federal land during construction would be handled according to the provisions of the NAGPRA and its implementing regulations (43 CFR §10). Construction would not resume in the area of the discovery until the BLM or applicable land management agency has issued a Notice to Proceed.

Native American human remains and associated grave offerings found on state or private land would be handled in accordance with applicable state law. Non-Native American human remains found on federal, state, or private land would be treated in accordance with applicable state laws.

Summary: As previously stated, once the final route has been selected by the agencies, an intensive Class III inventory and viewshed analysis would be conducted to identify historic properties within the direct, indirect, and visual APEs and determination of adverse effects to those properties would occur. Until that time, it is unknown how many historic properties would be adversely affected by the Project. Currently, a PA is being developed for the Project. Unavoidable adverse effects to historic properties, including TCPs and properties of traditional religious and cultural importance as a result of construction would be minimized or mitigated as stipulated in the PA, and through implementation of the HPTP and design features. Any previously unknown cultural resources (other than isolates) discovered during construction activities would be handled as detailed in the PA.

Information obtained from the National Historic Trails Inventory was used to assess impacts to the Old Spanish Trail, which is a congressionally designated NHT. Many segments of the Old Spanish Trail would be crossed by alternatives in Utah and Nevada; several of those segments are categorized as NHT 1 (verified, evident, and unaltered). Additionally, some of the alternatives in Utah and Nevada would be visible from segments of the trail that are categorized as NHT 1 for several miles. Those segments crossed by the alternatives or from which the alternatives would be visible are identified later in this section under the comparison of alternatives for each region. Depending on which alternative is chosen as the final route, direct and visual impacts to the Old Spanish Trail could occur as a result of the Project. If direct and/or visual impacts to the Old Spanish Trail would occur, the impacts would be minimized or mitigated as stipulated in the PA and HPTP as well as through implementation of the applicant-committed design features (**Appendix C, Table C-2**).

Operation Impacts

Direct adverse effects to historic properties, including TCPs and properties of traditional religious and cultural importance to Native American Tribes, would be minimized or mitigated as stipulated in the PA and HPTP prior to construction. In some instances, impacts to these properties would be avoided by spanning the property. Although spanning the property would eliminate direct effects, the property itself would be left in place and at risk of inadvertent damage, illegal collecting of artifacts, and/or vandalism during routine maintenance or if emergency maintenance is required. To minimize the potential for illegal collection, vandalism, and inadvertent damage, Project personnel would be instructed on the federal, state, and tribal laws that protect historic properties, including prohibition of collection and removal of cultural material, as stipulated in the applicant-committed design features (**Appendix C**, **Table C-2**).

Summary: The design feature prohibiting collection or removal of cultural material would reduce the incidence of vandalism or illegal collection of artifacts by Project personnel. However, these types of impacts may still occur as a result of increased public access to previously inaccessible areas.

Decommissioning Impacts

Decommissioning impacts to historic properties, including TCPs and properties of traditional religious and cultural importance would be similar to those described for operation impacts. There would be a beneficial effect to historic properties located in the viewshed of the Project as the transmission line structures are removed from view.

Summary: The design feature prohibiting collection or removal of cultural material would reduce the incidence of vandalism, inadvertent damage, and/or illegal collection of artifacts by Project personnel during activities associated with decommission. Visual impacts to historic properties and cultural landscapes would be reduced.

3.11.6.3 Region I

Construction, operation, and decommissioning impacts in Region I and the means to minimize or mitigate those impacts would be the same as those discussed in Section 3.11.6.2, Impacts Common to All Alternative Routes and Associated Components. However, the magnitude of impacts would vary depending on the amount of ground disturbance, the length of the transmission line, and the visibility of the transmission line and other aboveground facilities. It should be noted that the site totals provided in the site summary tables are based on databases of previously recorded sites documented during field inventories conducted for other projects that fall within the files search area. As such, if areas along an alternative have been previously inventoried, site totals most likely will be high; however, there are occasions when a small number of sites or no sites are located during field inventories. Conversely, if no or limited field inventories have been previously conducted along an alternative, site totals will be low or zero. Given this bias, the site totals may not be indicative of actual site occurrence, but do provide a baseline for the impact analysis.

Table 3.11-4 provides a comparison of site totals (within the 250-foot-wide transmission line ROW), NRHP eligibility, historic trail/road crossings, visibility of the alternative from the historic trail/road, inventory coverage, site density, disturbance acreage, and miles of transmission line and access roads associated with each alternative route in Region I. The site information is based on the files search data.

Table 3.11-4 Summary of Region I Alternative Route Impacts

Parameter		Alternative I-A	Alternative I-B	Alternative I-C	Alternative I-D
Site Types	Prehistoric	33	25	22	38
	Historic	4	8	11	6
	Multi-component	8	8	5	9
	Potential TCPs[1]	0	1	0	1
	No information	7	7	7	6
Site Totals[2]		52	49	45	60
Historic Trails/Roads Crossed and Visibility	Cherokee Trail	1 contributing segment crossed; visibility of the alternative – 24 miles	1 contributing segment crossed; visibility of the alternative – 9 miles	1 contributing segment crossed; visibility of the alternative – 11 miles	3 non-contributing segments crossed; visibility of the alternative – 28 miles
	Overland Trail	1 contributing segment crossed; visibility of the alternative – 9 miles	1 contributing segment crossed; visibility of the alternative – 9.7 miles	1 contributing segment crossed; visibility of the alternative – 7 miles	1 contributing segment crossed; visibility of the alternative – 9.2 miles
	Lincoln Highway	No segments crossed; visibility of the alternative – 50 miles	No segments crossed; visibility of the alternative – 55 miles	No segments crossed; visibility of the alternative – 48 miles	No segments crossed; visibility of the alternative – 50 miles
	Rawlins to Baggs Road	1 segment crossed (unknown if contributing); visibility of the alternative – 9 miles	1 segment crossed (unknown if contributing); visibility of the alternative – 9 miles	3 segments crossed (1 contributing; 2 unknown if contributing); visibility of the alternative – 33 miles	1 segment crossed (unknown if contributing); visibility of the alternative – 13.5 miles
Average Percent Inventory Coverage		14 percent	9 percent	9 percent	35 percent
Average Site Density[3]		3 sites per 100 acres inventoried	5 sites per 100 acres inventoried	4 sites per 100 acres inventoried	4.7 sites per 100 acres inventoried
Initial Disturbance[4]		2,057 acres	2,083 acres	2,511 acres	2,306 acres
Miles of Transmission Line and Access		155 miles; 227 miles	159 miles; 223 miles	186 miles; 269 miles	171 miles; 242 miles

Table 3.11-4 Summary of Region I Alternative Route Impacts

Parameter		Alternative I-A	Alternative I-B	Alternative I-C	Alternative I-D
Roads					
NRHP Status[5]	Listed	0	0	0	0
	Eligible for Listing	19	19	24	19
	Not Eligible	24	21	7	29
	Unevaluated	9	8	14	11

[1] In general, sites in which Native American Tribes attach traditional religious and cultural significance are referred to as "TCPs" by the Tribes. TCPs can include, but are not limited to, stone cairns, stone circles, rock shelters, rock art, prehistoric campsites, and village sites. At this time, no tribal consultation regarding verification of these sites as TCPs or other sites of importance to the Tribes has occurred. Until consultation with Native American Tribes to evaluate these sites has occurred, these sites are considered "potential TCPs" based on their site type and description.

[2] Site totals are for the 250-foot-wide transmission line ROW.

[3] Site densities are more likely reflective of inventory coverage rather than geographic trends (e.g., proximity to water).

[4] In general, direct impacts to historic properties could increase in relation to the amount of ground disturbance associated with construction.

[5] The discrepancy between the overall site total and the total for the NRHP-eligibility status is due to the fact that the potential TCPs are also prehistoric sites and are therefore counted twice. As such, the difference between the overall site total and total for eligibility is equal to the number of potential TCPs.

Source: SWCA 2012a,b, 2011a,b.

Alternative I-A (Applicant Proposed)

Under Alternative I-A, there would be approximately 2,057 acres of initial ground disturbance with 155 miles of transmission line and 227 miles of access roads. A total of 52 previously recorded cultural resources have been identified within the 250-foot-wide transmission line ROW of Alternative I-A, including 33 prehistoric sites, 4 historic sites, 8 multi-component sites containing both prehistoric and historic components, and 7 sites with no descriptive information. The majority of prehistoric sites are open lithic sites with no features, ground stone or ceramics, and open camps. Historic sites consist mainly of artifact scatters with no evidence of structures or features, campsites, and historic trails and roads (including the Victory Highway [U.S. 40]). Of the 52 sites, 19 are eligible for the NRHP, 24 are not eligible, and 9 are unevaluated. It should be noted that unevaluated sites are treated as eligible until a determination of NRHP eligibility can be made. Average site density is comparatively low at 3 sites per 100 acres inventoried, with an average 14 percent of the alternative inventoried.

Alternative I-A would cross one segment of the Cherokee and Overland trails and one segment of the Rawlins to Baggs Road; the Lincoln Highway would not be crossed (**Figure 3.11-1** and **Figure 3.11-2**). The segments of the Cherokee and Overland trails crossed by the alternative are both contributing segments to each trail's overall NRHP eligibility. At this time, it is unknown whether the segment of the Rawlins to Baggs Road crossed by the alternative is a contributing segment. This alternative would be visible from the Cherokee Trail for approximately 24 miles (10 of the 24 miles from contributing segments), the Rawlins to Baggs Road for approximately 9 miles (5 of the 9 miles from contributing segments), and the Overland Trail for approximately 9 miles (4 of the 9 miles from contributing segments). Although the Lincoln Highway would not be crossed by Alternative I-A, the alternative would be visible from the highway for approximately 50 miles (4 of the 50 miles from contributing segments). Visibility of the alternative from historic trails, road, and highway is based on the 5-mile (either side of the 250-foot-wide transmission line ROW) viewshed or indirect APE.

Alternative I-B

Under Alternative I-B, there would be approximately 2,083 acres of initial ground disturbance with 159 miles of transmission line and 223 miles of access roads. A total of 49 previously recorded cultural

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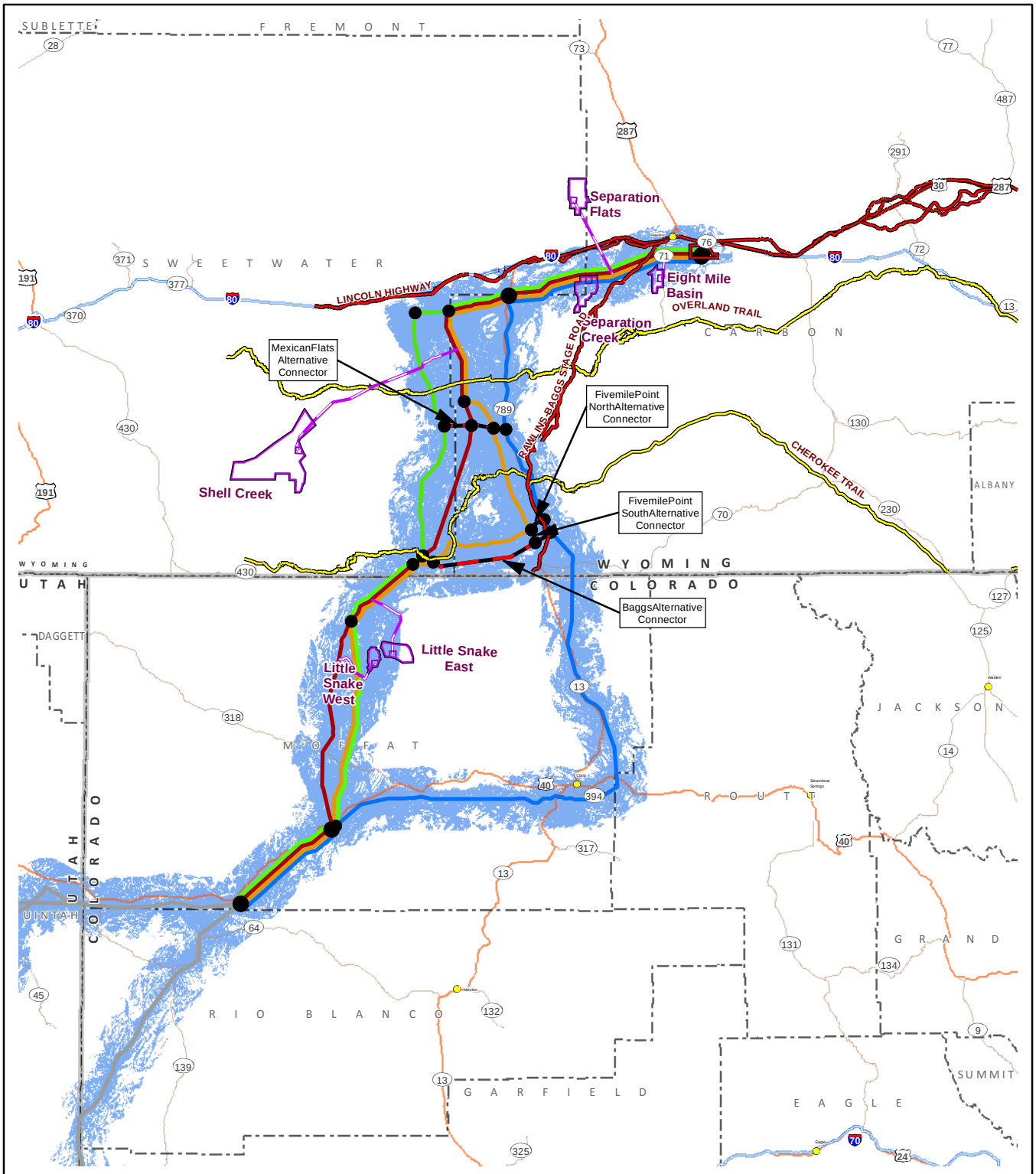

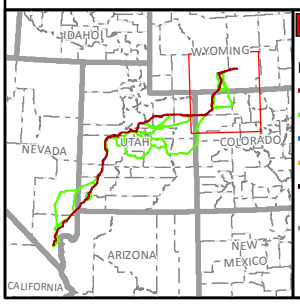

Terminal Siting Area
Node

DEIS Alternative Routes
- Applicant Proposed I-A
- Alternative I-B
- Alternative I-C
- Agency Preferred I-D
- Alternative Variation or Connector
- Segment not in this Region

- Transmission Line Visibility to 5 Miles
- Historic Highway
- Historic Trail or Road
- Potential Ground Electrode Siting Area
- Potential Ground Electrode Site
- Potential Ground Electrode Overhead Electrical Line

TRANSWEST EXPRESS TRANSMISSION PROJECT

Figure 3.11-1
Region I
Historic Trails and Roads

0 5 10 20 Miles
0 5 10 20 km
1:1,500,000

N

Western AREA POWER ADMINISTRATION

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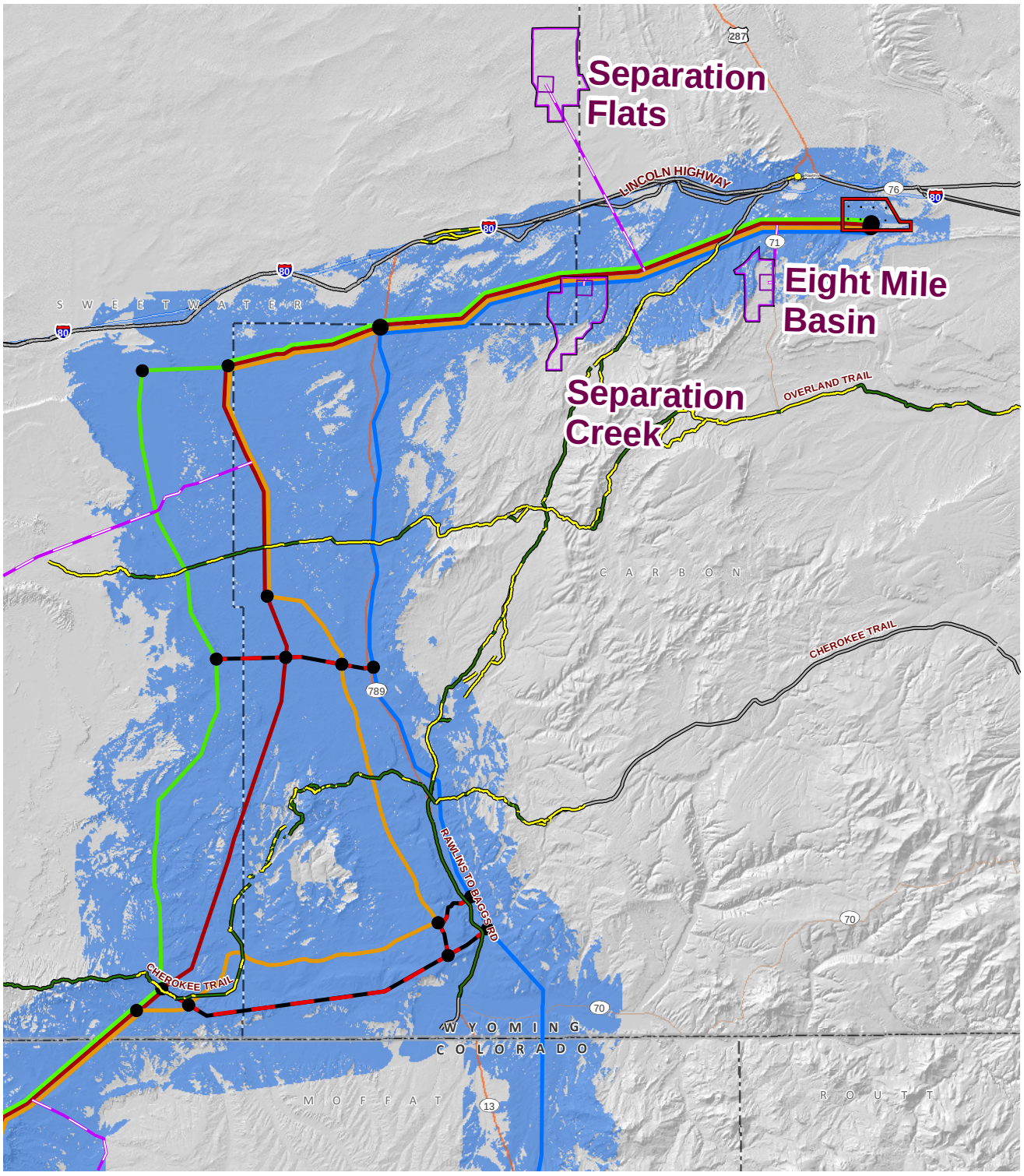

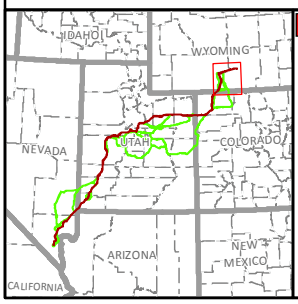

- Terminal Siting Area
- Node

DEIS Alternative Routes

- Applicant Proposed I-A
- Alternative I-B
- Alternative I-C
- Agency Preferred I-D
- Alternative Variation or Connector
- Segment not in this Region

- Transmission Line Visibility to 5 Miles
- Potential Ground Electrode Siting Area
- Potential Ground Electrode Site
- Potential Ground Electrode Overhead Electrical Line

Historic Trails and Roads

- Contributing Segment
- Non-contributing Segment
- Unknown Contribution

TRANSWEST EXPRESS TRANSMISSION PROJECT

Figure 3.11-2
Region I
Historic Trails and Roads Detail

0 2.5 5 10 Miles
0 2.5 5 10 km
1:600,000
N

Western AREA POWER ADMINISTRATION

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resources have been identified within the 250-foot-wide transmission line ROW of Alternative I-B, including 25 prehistoric sites, 8 historic sites, 8 multi-components sites with both prehistoric and historic components, 1 potential TCP, and 7 sites with no descriptive information. The majority of prehistoric sites are open lithic sites with no features, ground stone or ceramics, open camps, and stone features. Historic sites consist mainly of artifact scatters with no evidence of structures or features, campsites, and historic trails and roads (including the Victory Highway [U.S. 40]). Of the previously recorded sites in the 250-foot-wide wide transmission line ROW, 19 are eligible for the NRHP, 21 are not eligible, and 8 are unevaluated. Average site density is comparatively high at 5 sites per 100 acres inventoried, with an average 9 percent of the alternative inventoried.

The Cherokee and Overland trails and Rawlins to Baggs Road each would be crossed once by Alternative I-B; no segments of the Lincoln Highway would be crossed (**Figure 3.11-1** and **Figure 3.11-2**). The segments of the Cherokee and Overland trails crossed by the alternative are both contributing segments to each trail's overall NRHP eligibility. At this time, it is unknown whether the segment of the Rawlins to Baggs Road crossed by the alternative is a contributing segment. Alternative I-B would be visible from the Cherokee Trail for approximately 9 miles (4 of the 9 miles from contributing segments), the Overland Trail for approximately 9.7 miles (4 of the 9.7 miles from contributing segments), and the Rawlins to Baggs Road for approximately 9 miles (5 of the 9 miles from contributing segments). Although the Lincoln Highway would not be crossed by Alternative I-B, the alternative would be visible from the highway for approximately 55 miles (4 of the 55 miles from contributing segments). Visibility of the alternative from the historic trails, road, and highway is based on the 5-mile (either side of the 250-foot-wide transmission line ROW) viewshed or indirect APE.

Alternative I-C

Under Alternative I-C, there would be approximately 2,511 acres of initial ground disturbance with 186 miles of transmission line and 269 miles of access roads. A total of 45 previously recorded cultural resources have been identified within the 250-foot-wide transmission line ROW of Alternative I-C, including 22 prehistoric sites, 11 historic sites, 5 multi-component sites, and 7 sites with no descriptive information. Prehistoric sites consist mainly of open camps and open lithic sites while the majority of historic sites consist of artifact scatters, trails, roads (including the Victory Highway [U.S. 40]), and ditches/canals. Of the 45 sites previously recorded in the 250-foot-wide transmission line ROW, 24 are eligible for the NRHP, 7 are not eligible, and 14 are unevaluated. Average site density is 4 sites per 100 acres inventoried with an average 9 percent of the alternative inventoried.

Alternative I-C would cross the Overland and Cherokee trails once, and the Rawlins to Baggs Road three times; no segments of the Lincoln Highway would be crossed (**Figure 3.11-1** and **Figure 3.11-2**). The segments of the Cherokee and Overland trails crossed by Alternative I-C are both contributing segments to the trail's overall NRHP eligibility. Of the three segments of the Rawlins to Baggs Road crossed by the alternative, one is a contributing segment. At this time, it is unknown whether the remaining two segments of the road are contributing segments. This alternative would be visible from the Overland Trail for approximately 7 miles (6 of the 7 miles from contributing segments), the Cherokee Trail for approximately 11 miles (4 of the 11 miles from contributing segments), and the Rawlins to Baggs Road for approximately 33 miles (10 of the 33 miles from contributing segments). Although the Lincoln Highway would not be crossed by Alternative I-C, the alternative would be visible from the highway for approximately 48 miles (3 of the 48 miles from contributing segments). Visibility of Alternative I-C from the historic trails, road, and highway is based on the 5-mile (either side of the 250-foot-wide transmission line ROW) viewshed or indirect APE.

Alternative I-D (Agency Preferred)

Under Alternative I-D, there would be approximately 2,306 acres of initial ground disturbance with 171 miles of transmission line and 242 miles of access roads. A total of 60 previously recorded cultural resources have been identified within of the 250-foot-wide transmission line ROW of Alternative I-D,

including 38 prehistoric sites, 6 historic sites, 9 multi-component sites, 1 potential TCP, and 6 sites with no descriptive information. Prehistoric sites mainly consist of open camps, open lithic, stone circles, and cairns. Historic sites mainly consist of artifact scatters, trails, roads (including the Victory Highway [U.S. 40]), and structures. Of the previously recorded sites, 19 are eligible for the NRHP, 29 are not eligible, and 11 are unevaluated. Average site density is 4.7 sites per 100 acres inventoried with a comparatively high average inventory coverage at 35 percent. The Tuttle Easement micro-siting option would not substantially affect the results of the cultural resources analysis.

Alternative I-D would cross the Cherokee Trail three times, and the Overland Trail and Rawlins to Baggs Road would be crossed once; the Lincoln Highway would not be crossed (**Figure 3.11-1** and **Figure 3.11-2**). The three segments of the Cherokee Trail crossed by Alternative I-D are non-contributing segments to the trail's overall NRHP eligibility; whereas, the segment of the Overland Trail crossed by this alternative is a contributing segment. At this time, it is unknown whether the segment of the Rawlins to Baggs Road crossed by the alternative is a contributing segment. This alternative would be visible from the Cherokee Trail for approximately 28 miles (10 of the 28 miles from contributing segments), the Overland Trail for approximately 9.2 miles (4 of the 9.2 miles from contributing segments), and the Rawlins to Baggs Road for approximately 13.5 miles (5 of the 13.5 miles from contributing segments). Although the Lincoln Highway would not be crossed by Alternative I-D, the alternative would be visible from the highway for approximately 50 miles (4 of the 50 miles from contributing segments). Visibility of the alternative from the historic trails, road, and highway is based on the 5-mile (either side of the 250-foot-wide transmission line ROW) viewshed or indirect APE.

Region I Conclusion

Initial ground disturbance associated with Alternative I-A would be less than the other alternatives. Decreased ground disturbance could decrease the potential for direct impacts to known and unknown historic properties compared to the other alternatives. Under Alternative I-A, historic trail and road crossings would be less than Alternatives I-C and I-D, but similar to Alternative I-B. Overall visibility of the transmission line from the historic trails, road, and highway would be 92 miles under Alternative I-A, which would be less than under alternatives I-C and I-D. There are 28 historic properties (including eligible and unevaluated sites) previously identified within the 250-foot-wide transmission line ROW of Alternative I-A, which is less than under Alternatives I-C and I-D. Compared to the other alternatives, Alternative I-A has fewer average sites per 100 acres inventoried with an average inventory coverage of 14 percent.

Alternative Connectors in Region I

Table 3.11-5 provides a summary of impacts for the alternative connectors.

Table 3.11-5 Summary of Region I Alternative Connector Impacts

Alternative Connector	Analysis	Conclusion
Mexican Flats Alternative Connector	A total of 14 cultural resources have been previously recorded within the 250-foot-wide transmission line ROW of this alternative connector. Of these, 4 are NRHP-eligible, 6 are not eligible, and 4 are unevaluated. No historic trails or roads would be crossed by this alternative connector.	It is unknown at this time as to how many historic properties would be adversely affected by this alternative connector. Unavoidable adverse effects to historic properties would be minimized or mitigated as stipulated in the PA and through implementation of design features and BMPs. Any previously unknown cultural resources (other than isolates) discovered during construction activities would be handled as detailed in the PA.

Table 3.11-5 Summary of Region I Alternative Connector Impacts

Alternative Connector	Analysis	Conclusion
Baggs Alternative Connector	A total of 21 cultural resources have been previously recorded within the 250-foot-wide transmission line ROW of this connector. Of these, 6 are NRHP-eligible, 7 are not eligible, and 8 are unevaluated. The 21 resources include non-contributing segments of the Cherokee Trail and Rawlins to Baggs Road. This alternative connector would be visible from the trail for approximately 12 miles and from the road for approximately 12 miles.	Same conclusion as described above for the Mexican Flats Alternative Connector.
Fivemile Point North Alternative Connector	A non-contributing segment of the Rawlins to Baggs Road would be crossed once by this alternative connector. This alternative connector would be visible from the road for approximately 7.3 miles. No other cultural resources have been previously documented within the 250-foot-wide transmission line ROW of this connector.	Same conclusion as described above for the Mexican Flats Alternative Connector.
Fivemile Point South Alternative Connector	No cultural resources have been previously documented within the 250-foot-wide transmission line ROW of this connector. Although no historic trails or roads would be crossed by this alternative connector, it would be visible from the Rawlins to Baggs Road for approximately 3.5 miles.	Same conclusion as described above for the Mexican Flats Alternative Connector.

Sources: SWCA 2012a, 2011a.

Alternative Ground Electrode Systems in Region I

The northern ground electrode system would be necessary within 100 miles of the northern terminal as discussed in Chapter 2. Although the location for this system has not been determined, conceptual locations and connections to the alternative routes have been provided in the Project POD. At this time, no files searches have been completed for the alternative ground electrode system locations in Region I. Cultural resources inventories, including a files search, would be conducted prior to construction. If historic properties are located within proposed disturbance areas and would be adversely affected, the properties would be avoided by Project redesign. However, if avoidance is not feasible, adverse effects would be minimized or mitigated as stipulated in the PA and through implementation of design features. Unanticipated discoveries would be handled as outlined in the PA.

Table 3.11-6 provides a summary of potential impacts associated with the eight combinations of alternative route and location possibilities for the northern ground electrode system. Included in the table are disturbance acreages, miles of transmission line and access road, and the number of historic roads or trails crossed by the siting area and/or access road. It should be noted that direct impacts to historic properties could increase in relation to the amount of ground disturbance associated with construction of the electrode systems.

Table 3.11-6 Summary of Region I Alternative Ground Electrode System Impacts

Alternative Ground Electrode System Locations	Analysis
Separation Flat – All Alternative Routes	Ground disturbance associated with this alternative ground electrode system location would be 128 acres. There would be 13 miles of transmission line and 17 miles of access road. The access road associated with the Separation Flat alternative ground electrode system would cross three non-contributing segments of the Lincoln Highway.
Shell Creek (Alternative I-A and I-D)	Ground disturbance associated with this alternative ground electrode system location would be 223 acres. There would be 33 miles of transmission line and 43 miles of access road. The access road associated with the Shell Creek alternative ground electrode system would cross one non-contributing segment of the Overland Trail.

Table 3.11-6 Summary of Region I Alternative Ground Electrode System Impacts

Alternative Ground Electrode System Locations	Analysis
Shell Creek (Alternative I-B)	Ground disturbance associated with this alternative ground electrode system location would be 189 acres. There would be 26 miles of transmission line and 34 miles of access road. No historic trails or roads would be crossed by this alternative ground electrode system.
Little Snake East (Alternatives I-A, I-B, and I-D)	Ground disturbance associated with this alternative ground electrode system location would be 108 acres. There would be 9 miles of transmission line and 12 miles of access road. No historic trails or roads would be crossed by this alternative ground electrode system.
Little Snake West (Alternative I-A)	Ground disturbance associated with this alternative ground electrode system location would be 121 acres. There would be 10 miles of transmission line and 14 miles of access road. No historic trails or roads would be crossed by this alternative ground electrode system.
Little Snake West (Alternatives I-B and I-D)	Ground disturbance associated with this alternative ground electrode system location would be 93 acres. There would be 5 miles of transmission line and 7 miles of access road. No historic trails or roads would be crossed by this alternative ground electrode system.
Separation Creek (All Alternative Routes)	Ground disturbance associated with this alternative ground electrode system location would be 138 acres. There would be 14 miles of transmission line and 20 miles of access road. No historic trails or roads would be crossed by the Separation Creek alternative ground electrode system.
Eight Mile Basin (All Alternative Routes)	Ground disturbance associated with this alternative ground electrode system location would be 86 acres. There would be 4 miles of transmission line and 6 miles of access road. No historic trails or roads would be crossed by the Eight Mile Basin alternative ground electrode system.

Sources: SWCA 2012a, 2011a.

3.11.6.4 Region II

Construction, operation, and decommissioning impacts in Region II and the means to minimize or mitigate those impacts would be the same as those discussed in Section 3.11.6.2, Impacts Common to All Alternative Routes and Associated Components. However, the magnitude of impacts would vary depending on the amount of ground disturbance, the length of the transmission line, and the visibility of the transmission line and other aboveground facilities. **Table 3.11-7** provides a comparison of site totals (within the 250-foot-wide transmission line ROW), NRHP eligibility, historic trail crossings, visibility of the alternative from the historic trail, inventory coverage, site density, disturbance acreage, and miles of transmission line and access roads associated with each alternative route in Region II.

Table 3.11-7 Summary of Region II Alternative Route Impacts

Parameter		Alternative					
		II-A	II-B	II-C	II-D	II-E	II-F
Site Type	Prehistoric	8	44	58	26	8	26
	Historic	16	38	40	28	22	14
	Multi-component	1	7	7	3	2	1
	Potential TCPs[1]	1	8	10	4	1	4
	No information	1	7	5	1	1	2
Site Totals[2]		27	104	120	62	34	47

Table 3.11-7 Summary of Region II Alternative Route Impacts

Parameter		Alternative					
		II-A	**II-B**	**II-C**	**II-D**	**II-E**	**II-F**
Historic Trails Crossed	Old Spanish Trail	No segments crossed	4 segments crossed: 1 segment NHT II, 1 segment NHT III, 2 segments NHT V	9 segments crossed: 1 segment NHT II, 1 segment NHT III, 3 segments NHT V, and 4 segments not categorized	No segments crossed	No segments crossed	No segments crossed
	Visibility of the alternative from the Trail	No visibility	58 miles – 7 miles NHT II, 6 miles NHT III, 27 miles NHT IV, and 18 miles NHT V	107 miles – 17 miles NHT II, 8 miles NHT III, 31 miles NHT IV, 27 miles of NHT V, and 24 miles not categorized	No visibility	No visibility	No visibility
Average Percent Inventory Coverage		20 percent	19 percent	23 percent	19 percent	18 percent	22.4 percent
Average Site Density[3]		0.12 sites per 100 acres inventoried	0.25 sites per 100 acres inventoried	0.5 sites per 100 acres inventoried	0.1 sites per 100 acres inventoried	0.67 sites per 100 acres inventoried	0.09 sites per 100 acres inventoried
Initial Disturbance[4]		3,743 acres	5,003 acres	5,066 acres	4,055 acres	3,935 acres	4,276 acres
Miles of Transmission Line and Access Roads		257 miles; 463 miles	345 miles; 580 miles	364 miles: 556 miles	262 miles: 474 miles	266 miles; 471 miles	267 miles; 526 miles
NRHP Status[5]	Listed	0	1	1	0	0	0
	Eligible for Listing	13	48	45	26	17	20
	Not Eligible	13	30	40	29	16	20
	Unevaluated	0	17	24	3	0	3

[1] In general, sites in which Native American Tribes attach traditional religious and cultural significance are referred to as "TCPs" by the Tribes. TCPs can include, but are not limited to, stone cairns, stone circles, rock shelters, rock art, prehistoric campsites, and village sites. At this time, no tribal consultation regarding verification of these sites as TCPs or other sites of importance to the Tribes has occurred. Until consultation with Native American Tribes to evaluate these sites has occurred, these sites are considered "potential TCPs" based on their site type and description.

[2] Site totals are for the 250-foot-wide transmission line ROW.

[3] Site densities are more likely reflective of inventory coverage rather than geographic trends (e.g., proximity to water).

[4] In general, direct impacts to historic properties could increase in relation to the amount of ground disturbance associated with construction.

[5] The discrepancy between the overall site total and the total for the NRHP-eligibility status is due to the fact that the potential TCPs are also prehistoric sites and are therefore counted twice. As such, the difference between the overall site total and total for eligibility is equal to the number of potential TCPs.

Sources: SWCA 2012b,c,e, 2011b,c.

Alternative II-A (Applicant Proposed)

Under Alternative II-A, there would be approximately 3,743 acres of initial ground disturbance with 257 miles of transmission line and 463 miles of access roads. A total of 27 previously recorded cultural resources have been identified within the 250-foot-wide transmission line ROW of Alternative II-A, including 8 prehistoric sites, 16 historic sites, 1 multi-component site, 1 potential TCP, and 1 site with no descriptive information. The majority of prehistoric sites are lithic scatters, open campsites, and lithic and ceramic scatters. Historic sites consist mainly of trash scatters, railroads, roads, and ditches/canals. Of the previously recorded sites in the 250-foot-wide transmission line ROW, 13 are eligible for the NRHP and 13 are not eligible. Average site density is 0.12 sites per 100 acres inventoried with comparatively high average inventory coverage at 20 percent. The Strawberry IRA micro-siting options would not

substantially affect the results of the cultural resources impact analyses. Alternative II-A would not cross or parallel the Old Spanish Trail.

Alternative II-B

Key Parameters Summary

Under Alternative II-B, there would be approximately 5,003 acres of initial ground disturbance with 345 miles of transmission line and 580 miles of access roads. A total of 104 previously recorded cultural resources have been identified within the 250-foot transmission line ROW of Alternative II-B, including 44 prehistoric sites, 38 historic sites, 7 multi-component sites, 8 potential TCPs, and 7 sites with no descriptive information. The majority of sites recorded in the ROW are prehistoric open campsites, lithic scatters, and limited activity areas, and historic artifact scatters, irrigation ditches, railroads, and roads. Of the previously recorded sites in the 250-foot transmission line ROW, 1 is listed on the NRHP, 48 are eligible for the NRHP, 30 are not eligible, and 17 are unevaluated. It should be noted that unevaluated sites are treated as eligible until a determination of NRHP eligibility can be made. Average site density is 0.25 site per 100 acres inventoried with an average of 19 percent inventory coverage.

As previously discussed, the information obtained from the National Historic Trails Inventory was used in the analysis of impacts to the Old Spanish Trail, which is a congressionally designated NHT. As part of the inventory, each trail segment was categorized under the NHT Condition Categories, which are inter-agency standard classifications designed to assess the comparative character of visible trail remnants observed during the inventory (AECOM 2012). The categories only encompass the condition of the trail tread, and do not reflect the scenic or historic character or integrity of the NHT setting or surrounding landscape. In addition, the categories are not intended to, nor do they provide criteria for, assessing the NRHP eligibility; however, they do provide an assessment of conditions that can be used as part of the NRHP evaluation. There are six NHT Condition Categories:

NHT I – Location verified, evident, and unaltered

NHT II – Location verified and evident with minor alteration

NHT III – Location verified with little remaining evidence

NHT IV – Location verified and permanently altered

NHT V – Location approximate or not verified

NHT VI – Location verified with historic reconstruction

Alternative II-B would cross the Old Spanish Trail four times (**Figure 3.11-3** and **Figure 3.11-4**). Of the four segments crossed by the alternative, one is categorized as NHT II, one is categorized as NHT III, and two are categorized as NHT V. This alternative would be visible from the Old Spanish Trail for approximately 58 miles. Of those 58 miles, approximately 7 miles of trail segments are categorized as NHT II, approximately 6 miles of trail segments are categorized as NHT III, approximately 27 miles of trail segments are categorized as NHT IV, and, approximately 18 miles are categorized as NHT V. Visibility of Alternative II-B from the historic trail is based on the 5-mile (either side of the 250-foot-wide transmission line ROW) viewshed or indirect APE.

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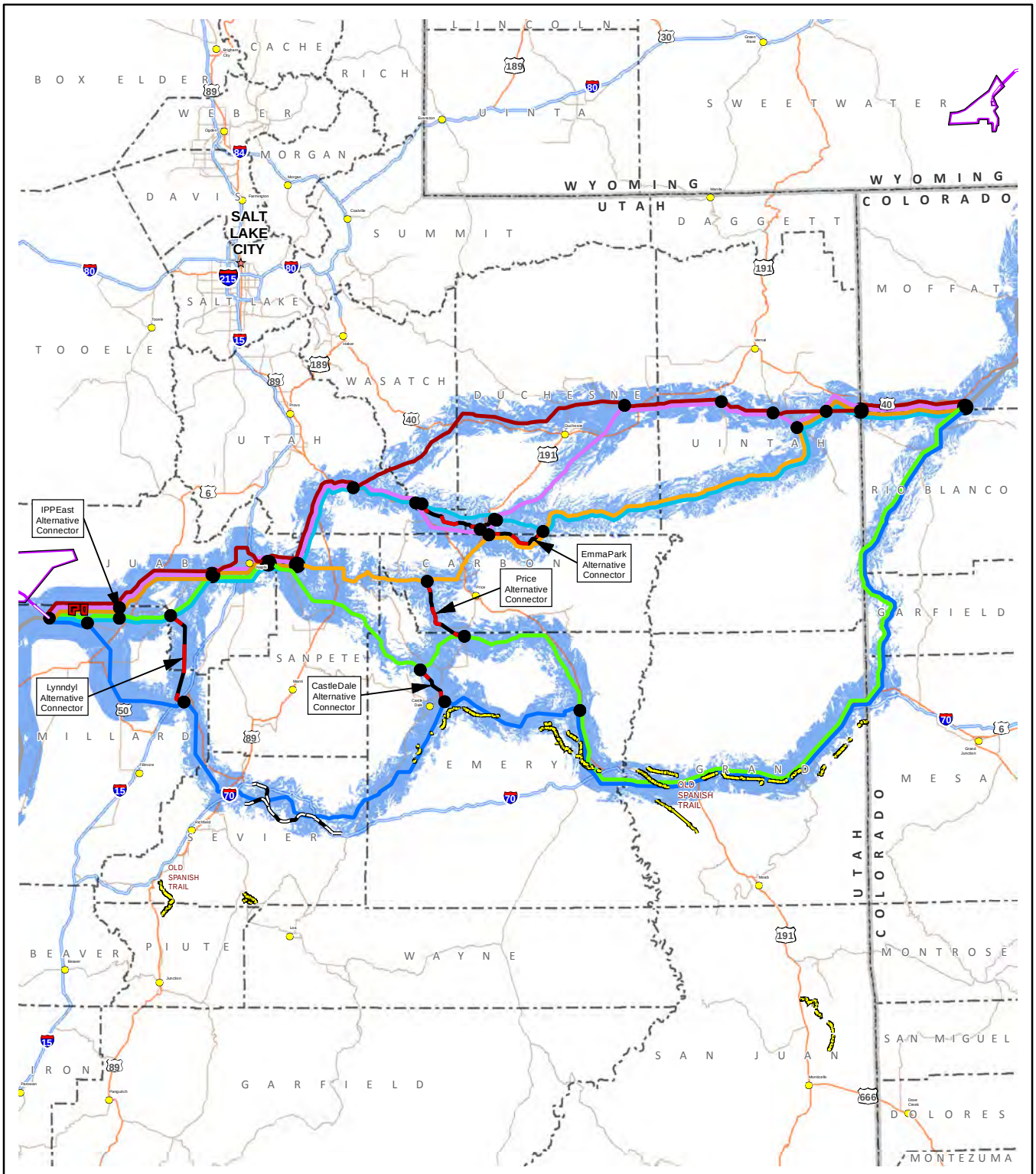

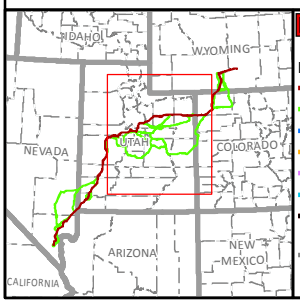

- Terminal Siting Area
- Node

DEIS Alternative Routes

- Applicant Proposed II-A
- Alternative II-B
- Alternative II-C
- Alternative II-D
- Alternative II-E
- Agency Preferred II-F
- Alternative Variation or Connector
- Segment not in this Region

- Old Spanish Trail Traces (NHT)
- Old Spanish Trail (USFS)
- Tranmission Line Visibility to 5 Miles
- Potential Ground Electrode Siting Area
- Potential Ground Electrode Site
- Potential Ground Electrode Overhead Electrical Line

TRANSWEST EXPRESS TRANSMISSION PROJECT

Figure 3.11-3
Region II
Historic Trails

0 10 20 40 Miles
0 10 20 40 km
1:2,250,000
N

Western AREA POWER ADMINISTRATION

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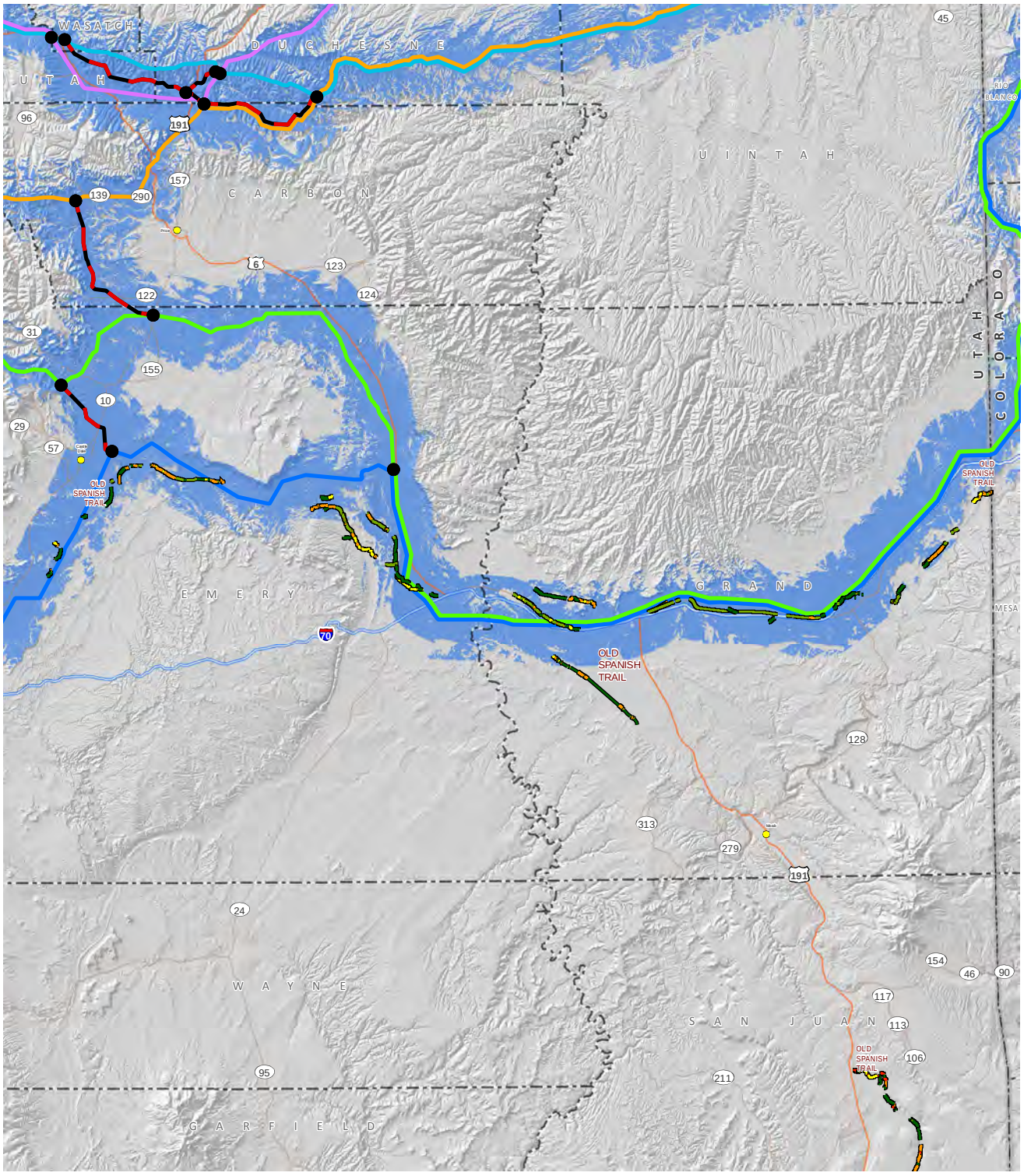

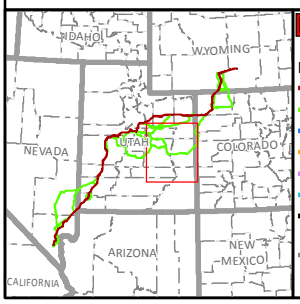

Terminal Siting Area
Node

DEIS Alternative Routes
- Applicant Proposed II-A
- Alternative II-B
- Alternative II-C
- Alternative II-D
- Alternative II-E
- Agency Preferred II-F
- Alternative Variation or Connector
- Segment not in this Region

- Potential Ground Electrode Siting Area
- Potential Ground Electrode Site
- Potential Ground Electrode Overhead Electrical Line
- Tranmission Line Visibility to 5 Miles

Old Spanish Trail Condition (NHT)
- NHT I
- NHT II
- NHT III
- NHT IV
- NHT V

TRANSWEST EXPRESS TRANSMISSION PROJECT

Figure 3.11-4
Region II
Historic Trails Detail

0 5 10 20 Miles
0 5 10 20 km
1:1,100,000
N

Western AREA POWER ADMINISTRATION

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Alternative II-C

Under Alternative II-C, there would be approximately 5,066 acres of initial ground disturbance with 364 miles of transmission line and 556 miles of access roads. A total of 120 previously recorded cultural resources have been identified within the 250-foot-wide transmission line ROW of Alternative II-C, including 58 prehistoric sites, 40 historic sites, 7 multi-component sites, 10 potential TCPs, and 5 sites with no descriptive information. Prehistoric sites mainly consist of lithic scatters and temporary campsites, while historic sites mainly consist of artifact scatters, habitation, roads, railroads, and ditches. Of the sites previously recorded in the 250-foot-wide transmission line ROW, 1 is listed on the NRHP, 45 are eligible for the NRHP, 40 are not eligible, and 24 are unevaluated. Average site density is 0.5 sites per 100 acres inventoried with comparatively high average inventory coverage at 23 percent.

This alternative would cross the Old Spanish Trail nine times (**Figure 3.11-3** and **Figure 3.11-4**). Of the nine segments crossed by the alternative, one is categorized as NHT II, one is categorized as NHT III, three are categorized as NHT V, and four are not categorized. The four segments not categorized are located on NFS lands; therefore, they were not part of the BLM's NHT inventory. Alternative II-C would be visible from the Old Spanish Trail for approximately 107 miles. Of those 107 miles, approximately 17 miles of trail segments are categorized as NHT II, approximately 8 miles are categorized as NHT III, approximately 31 miles are categorized as NHT IV, approximately 27 miles are categorized as NHT V, and approximately 24 miles are not categorized and are located on NFS lands. Visibility of the alternative from the historic trail is based on the 5-mile (either side of the 250-foot-wide transmission line ROW) viewshed or indirect APE.

Alternative II-D

Under Alternative II-D, there would be approximately 4,055 acres of initial ground disturbance with 262 miles of transmission line and 474 miles of access roads. A total of 62 previously recorded cultural resources have been identified within the 250-foot-wide transmission line ROW of Alternative II-D, including 26 prehistoric sites, 28 historic sites, 3 multi-component sites, 4 potential TCPs, and 1 site with no descriptive information. The majority of sites include prehistoric lithic scatters and temporary campsites, and historic ditches, roads, structures, and artifact scatters. Of the sites previously recorded in the 250-foot-wide transmission line ROW, 26 are eligible for the NRHP, 29 are not eligible, and 3 are unevaluated. Average site density is 0.1 sites per 100 acres inventoried with an average of 19 percent inventory coverage.

Alternative II-D would not cross or parallel the Old Spanish Trail.

Alternative II-E

Under Alternative II-E, there would be approximately 3,935 acres of initial ground disturbance with 266 miles of transmission line and 471 miles of access roads. A total of 34 previously recorded cultural resources have been identified within the 250-foot-wide transmission line ROW of Alternative II-E, including 8 prehistoric sites, 22 historic sites, 2 multi-component sites, 1 potential TCP, and 1 site with no descriptive information. Of the previously recorded sites, 17 are eligible for the NRHP and16 are not eligible. The majority of previously recorded sites include historic trash scatters, structures, ditches/canals, and roads, and prehistoric open campsites and lithic scatters. Average site density is comparatively high at 0.67 sites per 100 acres inventoried with a comparatively low average inventory coverage of 18 percent.

Alternative II-E would not cross or parallel the Old Spanish Trail.

Alternative II-F (Agency Preferred)

Under Alternative II-F, there would be approximately 4,276 acres of initial ground disturbance with 267 miles of transmission line and 526 miles of access roads. A total of 47 previously recorded cultural

resources have been identified within the 250-foot-wide transmission line ROW of Alternative II-F, including 26 prehistoric sites, 14 historic sites, 1 multi-component site, 4 potential TCPs, and 2 sites with no descriptive information. The majority of previously recorded sites include historic trash scatters, structures, ditches/canals, and roads and prehistoric open campsites and lithic scatters. Of the sites previously recorded in the 250-foot-wide transmission line ROW, 20 are eligible for the NRHP, 20 are not eligible, and 3 are unevaluated. Average site density is comparatively low at 0.09 sites per 100 acres inventoried with a comparatively high average inventory coverage of 22.4 percent.

Alternative II-F would not cross or parallel the Old Spanish Trail. The Cedar Knoll IRA micro-siting options would not substantially affect the results of the cultural resources impact analyses.

Region II Conclusion

Initial ground disturbance associated with Alternative II-A would be less than the other alternatives. Decreased ground disturbance could decrease the potential for direct impacts to known and unknown historic properties compared to the other alternatives. Under Alternative II-A, no segments of the Old Spanish Trail would be crossed nor would the alternative be visible from the trail. In comparison, Alternatives II-B and II-C would cross the trail 4 times and 9 times, respectively, and would be visible from the trail for more than 50 miles. There are 13 historic properties previously identified within the 250-foot-wide transmission line ROW of Alternative II-A, which is less than the other alternatives. Average site density for Alternative II-A is relatively similar to the other alternatives; whereas, the average inventory coverage of 20 percent is lower than Alternatives II-C and II-F.

Alternative Variation in Region II

Table 3.11-8 summarizes the impacts associated with the alternative variation in Region II.

Table 3.11-8 Summary of Region II Alternative Variation Impacts

Alternative Variation	Analysis
Emma Park Alternative Variation	No cultural resources have been previously recorded within the 250-foot-wide transmission line ROW of the Emma Park Alternative Variation. In comparison, one ineligible historic site has been previously recorded within the 250-foot-wide transmission line ROW of the portion of Alternative II-F it would replace. No segments of the Old Spanish Trail would be crossed by the alternative variation or portion of the alternative it would replace. Ground disturbance associated with the Emma Park Alternative Variation would be 1,959 acres (including access roads) compared to 1,909 acres (including access roads) of initial disturbance associated with the portion of Alternative II-F it would replace.

Alternative Connectors in Region II

Table 3.11-9 summarizes the impacts associated with the alternative connectors in Region II.

Table 3.11-9 Summary of Region II Alternative Connector Impacts

Alternative Connector	Analysis	Conclusion
Highway 191 Alternative Connector	No cultural resources have been previously recorded within the 250-foot-wide transmission line ROW of this alternative connector.	It is unknown at this time as to how many historic properties would be adversely affected by this alternative connector. Unavoidable adverse effects to historic properties would be minimized or mitigated as stipulated in the PA and through implementation of the design

Table 3.11-9 Summary of Region II Alternative Connector Impacts

Alternative Connector	Analysis	Conclusion
		features. Any previously unknown cultural resources (other than isolates) discovered during construction activities would be handled as detailed in the PA.
Lynndyl Alternative Connector	A total of two cultural resources have been previously documented within the 250-foot-wide transmission line ROW of this alternative connector. Both resources have been previously evaluated as not eligible for the NRHP.	Same conclusion as described above for the Highway 191 Alternative Connector.
IPP East Alternative Connector	No cultural resources have been previously recorded within the 250-foot-wide transmission line ROW of this alternative connector.	Same conclusion as described above for the Highway 191 Alternative Connector.
Price Alternative Connector	A total of 11 cultural resources have been previously documented in the 250-foot-wide transmission line ROW of this alternative connector. Of these, four are eligible for the NRHP, six are not eligible, and one is unevaluated.	Same conclusion as described above for the Highway 191 Alternative Connector.
Castle Dale Alternative Connector	A total of four cultural resources have been previously documented in the 250-foot-wide transmission line ROW of this alternative connector. Of these, one is eligible for the NRHP, two are not eligible, and one is unevaluated.	Same conclusion as described above for the Highway 191 Alternative Connector.

Sources: SWCA 2012c,e, 2011c.

3.11.6.5 Region III

Construction, operation, and decommissioning impacts in Region III and the means to minimize or mitigate those impacts would be the same as those discussed in Section 3.11.6.2, Impacts Common to All Alternative Routes and Associated Components. However, the magnitude of impacts would vary depending on the amount of ground disturbance, the length of the transmission line, and the visibility of the transmission line and other aboveground facilities. **Table 3.11-10** provides a comparison of site totals (within the 250-foot-wide transmission line ROW), NRHP eligibility, historic trail crossings, visibility of the alternative from the historic trail, inventory coverage, site density, disturbance acreage, and miles of transmission line associated with each alternative route in Region III.

Table 3.11-10 Summary of Region III Alternative Route Impacts for Cultural Resources

Parameter		Alternative III-A	Alternative III-B	Alternative III-C
Site Type	Prehistoric	23	40	49
	Historic	13	7	10
	Multi-component	1	1	1
	Potential TCPs[1]	3	11	5
	No Information	7	4	5
Site Totals[2]		47	63	70

Table 3.11-10 Summary of Region III Alternative Route Impacts for Cultural Resources

Parameter		Alternative III-A	Alternative III-B	Alternative III-C
Historic Trail Crossed and Visibility	Old Spanish Trail	3 segments crossed: 1 segment categorized as NHT I; 2 segments not categorized	No segments crossed	No segments crossed
	Visibility of the alternative from the Trail	23 miles - 8 miles NHT I, 2 miles NHT II, 0.1 mile NHT IV, and 13 miles not categorized	6.2 miles – 4.8 miles NHT I, 1.3 miles NHT II, and 0.1 mile NHT IV	No visibility
Average Percent Inventory Coverage		20 percent	23 percent	20 percent
Average Site Density[3]		0.02 sites per 100 acres inventoried	1.7 sites per 100 acres inventoried	0.01 sites per 100 acres inventoried
Initial Disturbance[4]		3,641 acres	3,593 acres	3,926 acres
Miles of Transmission Line and Access Roads		276 miles; 423 miles	285 miles; 401 miles	308 miles; 433 miles
NRHP Status[5]	Listed	0	1	1
	Eligible for Listing	23	15	29
	Not Eligible	10	22	24
	Unevaluated	11	14	11

[1] In general, sites in which Native American Tribes attach traditional religious and cultural significance are referred to as "TCPs" by the Tribes. TCPs can include, but are not limited to, stone cairns, stone circles, rock shelters, rock art, prehistoric campsites, and village sites. At this time, no tribal consultation regarding verification of these sites as TCPs or other sites of importance to the Tribes has occurred. Until consultation with Native American Tribes to evaluate these sites has occurred, these sites are considered "potential TCPs" based on their site type and description.

[2] Site totals are for the 250-foot-wide transmission line ROW.

[3] Site densities are more likely reflective of inventory coverage rather than geographic trends (e.g., proximity to water).

[4] In general, direct impacts to historic properties could increase in relation to the amount of ground disturbance associated with construction.

[5] The discrepancy between the overall site total and the total for the NRHP-eligibility status is due to the fact that the potential TCPs are also prehistoric sites and are therefore counted twice. As such, the difference between the overall site total and total for eligibility is equal to the number of potential TCPs.

Sources: SWCA 2012c,d,e, 2011c,.

Alternative III-A (Applicant Proposed)

Under Alternative III-A, there would be approximately 3,641 acres of initial ground disturbance with 276 miles of transmission line and 423 miles of access roads. A total of 47 previously recorded cultural resources have been identified within the 250-foot-wide transmission line ROW of Alternative III-A, including 23 prehistoric sites, 13 historic sites, 1 multi-component site with both prehistoric and historic components, 3 potential TCPs, and 7 sites with no descriptive information. Prehistoric sites consist mainly of open campsites and lithic scatters; historic sites mainly consist of artifact scatters, structures, and roads. Of the previously recorded sites, 23 are eligible for the NRHP, 10 are not eligible, and 11 are unevaluated. It should be noted that unevaluated sites are treated as eligible until a determination of NRHP eligibility can be made. The Mountain Meadows Massacre Site and Mountain Meadows NHL are located approximately 0.5 mile from Alternative III-A (see Section 3.12, Visual Resources, for the results of the viewshed analysis conducted for the Mountain Meadows Massacre Site). Average site density is 0.02 sites per 100 acres inventoried with an average 20 percent inventory coverage.

The Old Spanish Trail would be crossed three times by Alternative III-A (**Figures 3.11-5**, **3.11-6**, and **3.11-7**); one segment is categorized as NHT I (location verified, evident, and unaltered) and two segments are not categorized. The two segments not categorized are located on NFS lands; therefore, they were not part of the BLM's NHT inventory. Alternative III-A would be visible from the Old Spanish Trail for approximately 23 miles. Of those 23 miles, approximately 8 miles of trail segments are

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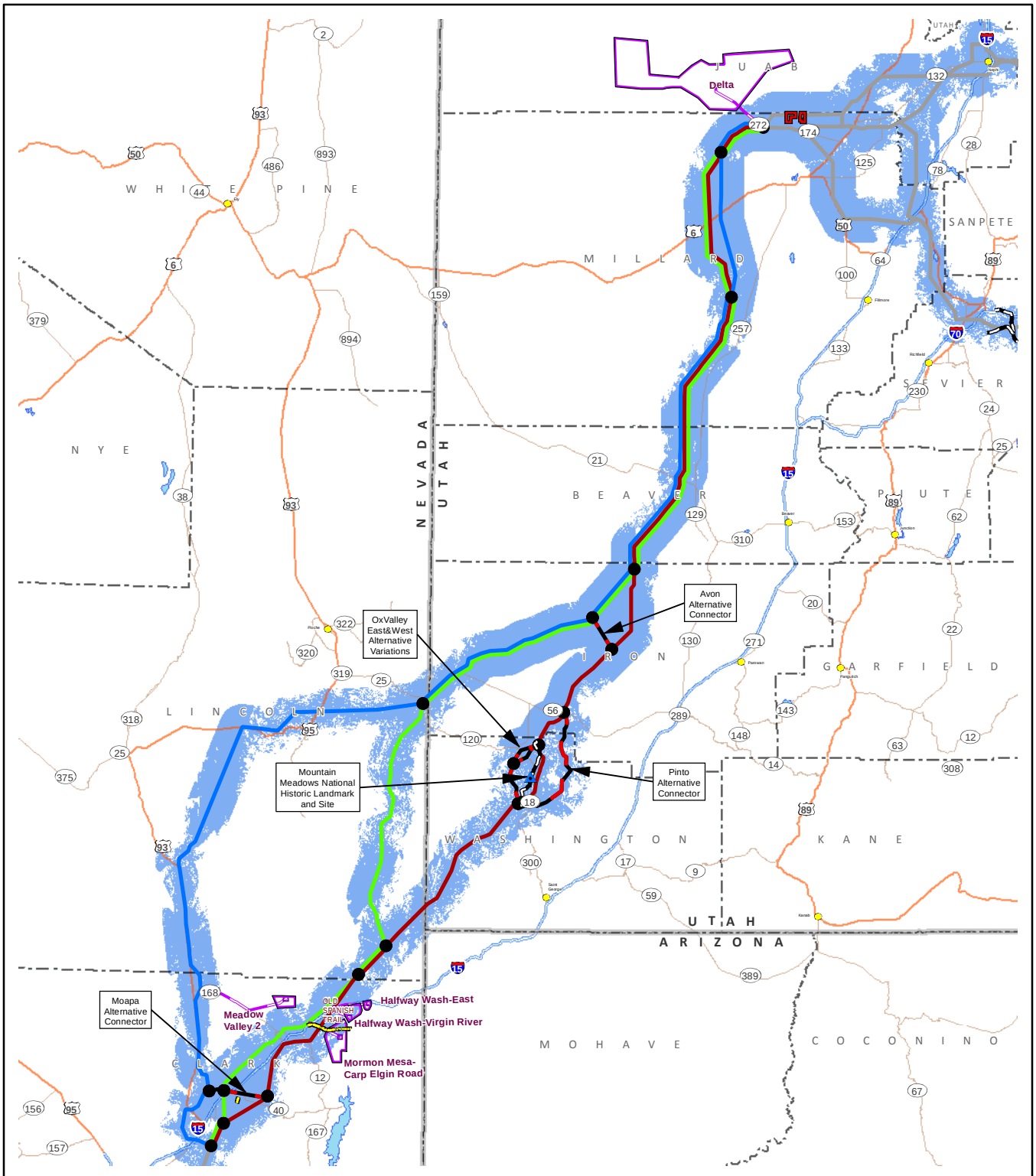

Terminal Siting Area
Node

DEIS Alternative Routes
- Applicant Proposed III-A
- Agency Preferred III-B
- Alternative III-C
- Alternative Variation or Connector
- Segment not in this Region

- Tranmission Line Visibility to 5 Miles
- Old Spanish Trail Traces (NHT)
- Old Spanish Trail (USFS)
- Potential Ground Electrode Siting Area
- Potential Ground Electrode Site
- Potential Ground Electrode Overhead Electrical Line

TRANSWEST EXPRESS TRANSMISSION PROJECT

Figure 3.11-5
Region III
Historic Trails

0 10 20 40 Miles
0 10 20 40 km
1:2,000,000

N

Western AREA POWER ADMINISTRATION

Exported On: 6/5/2013

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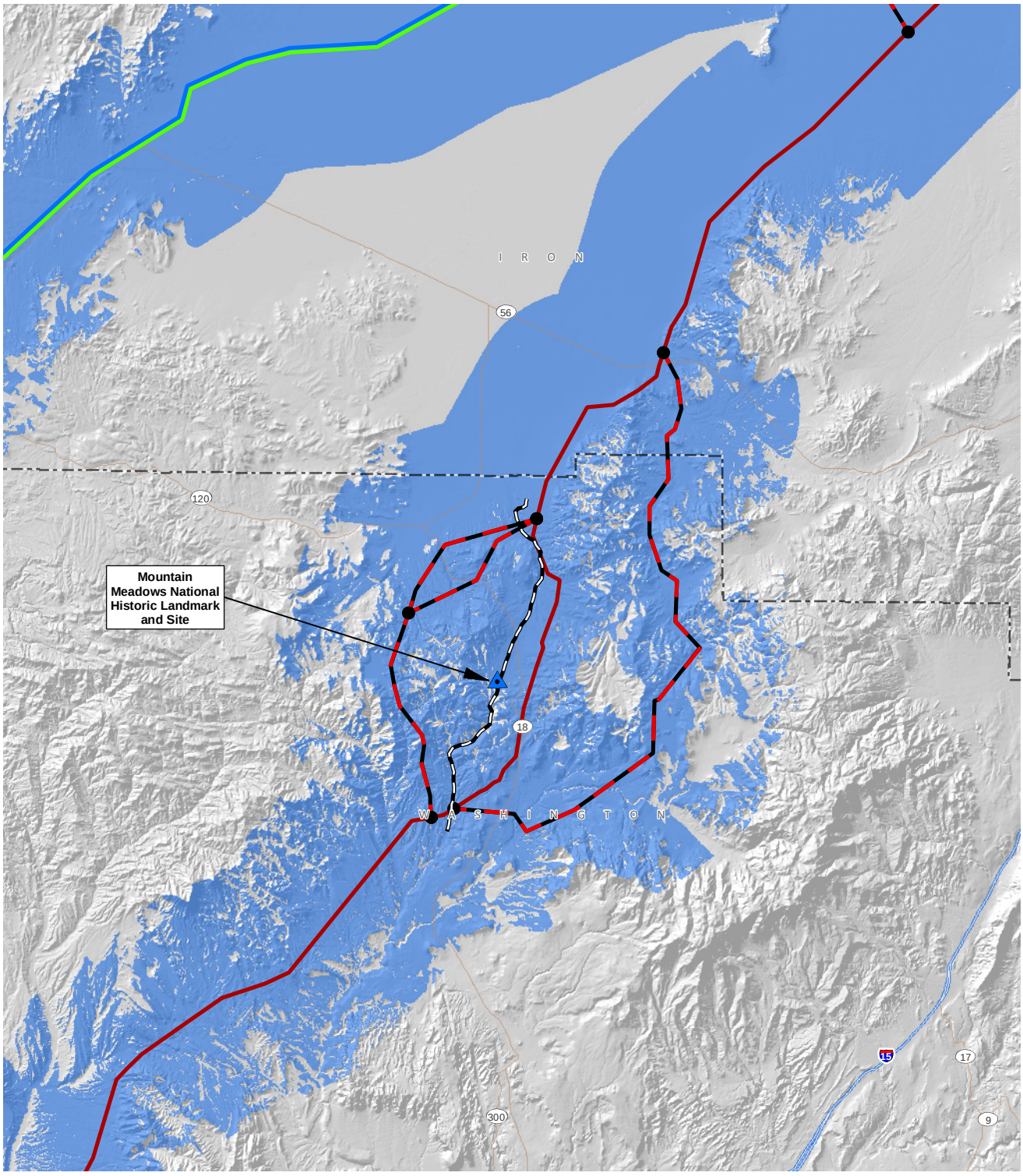

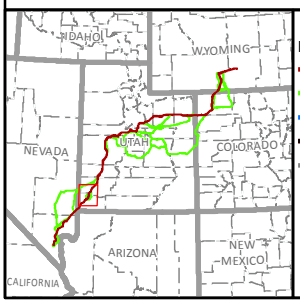

Node

DEIS Alternative Routes

- Applicant Proposed III-A
- Agency Preferred III-B
- Alternative III-C
- Alternative Variation or Connector
- Segment not in this Region

- Tranmission Line Visibility to 5 Miles
- Old Spanish Trail (USFS)
- Potential Ground Electrode Siting Area
- Potential Ground Electrode Site
- Potential Ground Electrode Overhead Electrical Line

TRANSWEST EXPRESS TRANSMISSION PROJECT

Figure 3.11-6
Region III
Historic Trails Detail

0 2 4 8 Miles
0 2 4 8 km
1:400,000

N

Western AREA POWER ADMINISTRATION

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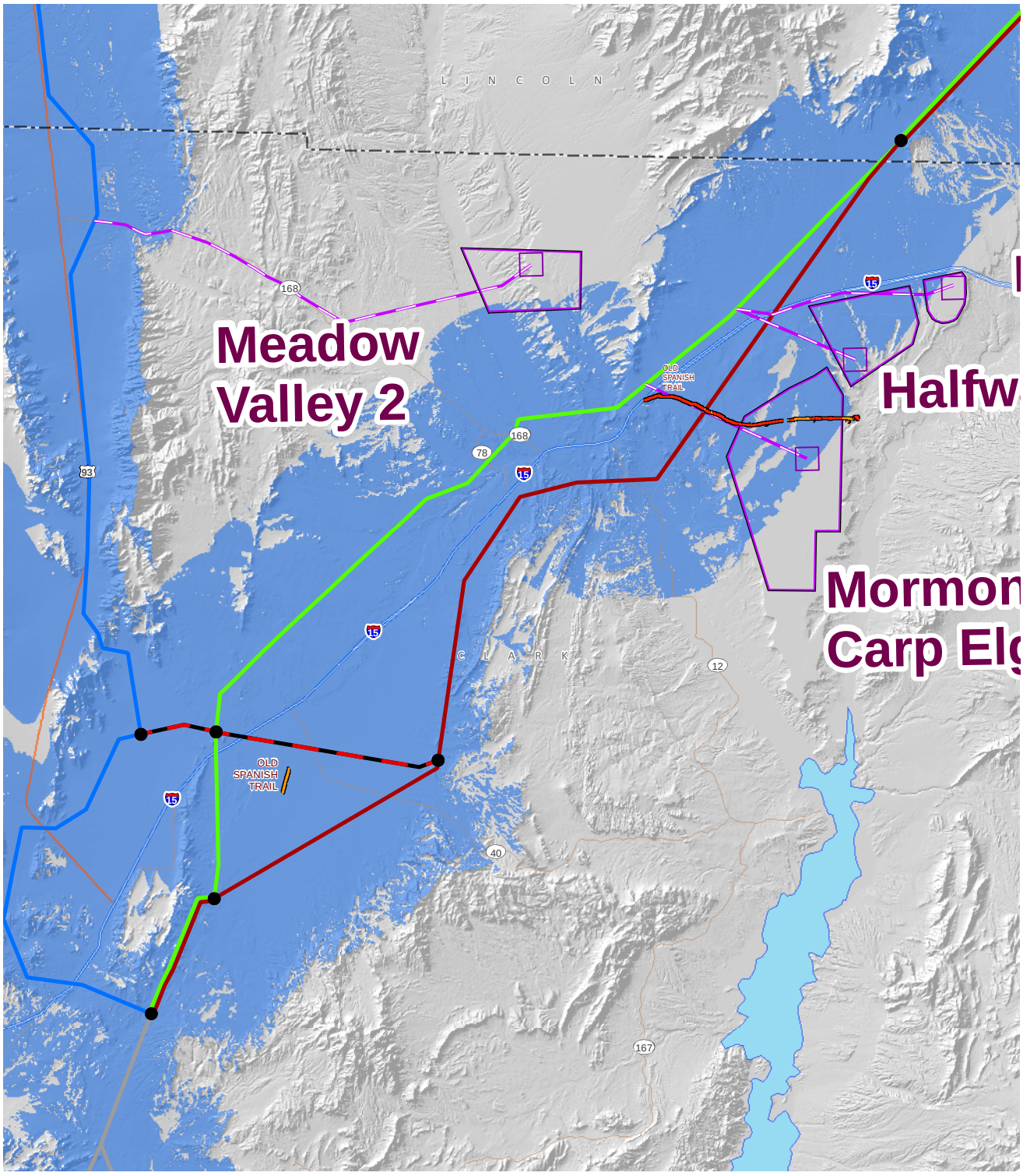

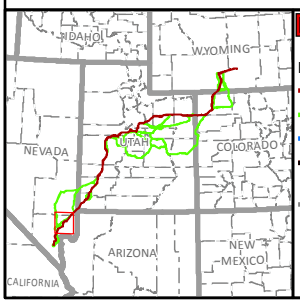

Terminal Siting Area
Node

DEIS Alternative Routes
- Applicant Proposed III-A
- Agency Preferred III-B
- Alternative III-C
- Alternative Variation or Connector
- Segment not in this Region

- Tranmission Line Visibility to 5 Miles
- Potential Ground Electrode Siting Area
- Potential Ground Electrode Site
- Potential Ground Electrode Overhead Electrical Line

Old Spanish Trail Condition
- NHT I
- NHT II
- NHT III
- NHT IV
- NHT V

TRANSWEST EXPRESS TRANSMISSION PROJECT

Figure 3.11-7
Region III
Historic Trails Detail

0 2 4 8 Miles
0 2 4 8 km
1:400,000

N

Western AREA POWER ADMINISTRATION

Exported On: 6/5/2013

categorized as NHT I, approximately 2 miles of trail segments are categorized as NHT II (location verified and evident with minor alteration), approximately 0.1 mile is categorized as NHT IV (location verified and permanently altered), and approximately 13 miles are not categorized. Visibility of Alternative III-A from the historic trail is based on the 5-mile (either side of the 250-foot-wide transmission line ROW) viewshed or indirect APE.

Alternative III-B (Agency Preferred)

Under Alternative III-B, there would be approximately 3,593 acres of initial ground disturbance with 285 miles of transmission line and 401 miles of access roads. A total of 63 previously recorded cultural resources have been identified within the 250-foot-wide transmission line ROW of Alternative III-B, including 40 prehistoric sites, 7 historic sites, 1 multi-component sites, 11 potential TCPs, and 4 sites with no descriptive information. The majority of prehistoric sites are open camps, temporary campsites, and lithic scatters, while the majority of historic sites are artifact scatters. Of the previously recorded sites, 1 is listed on the NRHP, 15 are eligible for the NRHP, 22 are not eligible, and 14 are unevaluated. Included in the 63 sites is the NRHP-listed Panaca Summit Archaeological District, which contains over 70 prehistoric sites in an area extending over 7,000 acres. The Mountain Meadows Massacre Site and Mountain Meadows NHL are located approximately 31 miles from Alternative III-B. Average site density is comparatively high at 1.7 sites per 100 acres inventoried with a comparatively high average inventory coverage of 23 percent.

The Old Spanish Trail would not be crossed by Alternative III-B (**Figures 3.11-5**, **3.11-6**, and **3.11-7**). Although the Old Spanish Trail would not be crossed by the Alternative III-B, the alternative would be visible from the trail for approximately 6.2 miles. Of those 6.2 miles, approximately 4.8 miles of trail segments are categorized as NHT I (location verified, evident, and unaltered), approximately 1.3 miles of trail segments are categorized as NHT II (location verified and evident with minor alteration), and approximately 0.1 mile is categorized as NHT IV (location verified and permanently altered). Visibility of the alternative from the historic trail is based on the 5-mile (either side of the 250-foot-wide transmission line ROW) viewshed or indirect APE.

Alternative III-C

Under Alternative III-C, there would be approximately 3,926 acres of initial ground disturbance with 308 miles of transmission line and 433 miles of access roads. A total of 70 previously recorded cultural resources have been identified within the 250-foot-wide transmission line ROW of Alternative III-C, including 49 prehistoric sites, 10 historic sites, 1 multi-component site, 5 potential TCPs, and 5 sites with no descriptive information. Most of the sites consist of prehistoric open and sheltered lithic sites and open camps, while most of the historic sites are trash scatters. Of the previously recorded sites, 1 is listed on the NRHP, 29 are eligible for the NRHP, 24 are not eligible, and 11 are unevaluated. Included in the 70 sites is the NRHP-listed Panaca Summit Archaeological District, which contains over 70 prehistoric sites in an area extending over 7,000 acres. The Mountain Meadows Massacre Site and Mountain Meadows NHL are located approximately 28 miles from Alternative III-C. Average site density is 0.01 sites per 100 acres inventoried with an average inventory coverage of 20 percent.

The Old Spanish Trail would not be crossed by or parallel to Alternative III-C.

Region III Conclusion

Alternative III-A would have more acres of initial ground disturbance than Alternative III-B, but less than Alternative III-C. Fewer previously recorded historic properties (including both eligible and unevaluated sites) have been identified within Alternative III-A compared to the other alternatives, with an average site density of 0.02 sites per 100 acres inventoried and an average of 20 percent inventory coverage. In addition, Alternative III-A would not cross the NRHP-listed Panaca Summit Archaeological District. Alternative III-A would be located 0.5 mile from the Mountain Meadows Massacre Site and NHL; whereas, the other two alternatives are over 28 miles from the site and NHL. As such, Alternative III-A

would have a greater potential to visually impact the Mountain Meadows Massacre Site and Mountain Meadows NHL due to its close proximity and a greater potential to directly impact unmarked graves associated with the massacre site (the exact locations of all of the gravesites are unknown). The Old Spanish Trail would be crossed by Alternative III-A, but not by the other alternatives. Additionally, Alternative III-A would be visible from the trail for approximately 23 miles (8 miles categorized as NHT I), which would be more than the other two alternatives.

Alternative Variations in Region III

Table 3.11-11 provides a comparison of impacts associated with the alternative variations in Region III.

Table 3.11-11 Summary of Region III Alternative Variation Impacts

Alternative Variation	Analysis
Ox Valley East Alternative Variation	A total of 5 cultural resources have been previously recorded within the 250-foot-wide transmission line ROW of the Ox Valley East Alternative Variation compared to 36 cultural resources previously recorded within the 250-foot-wide transmission line ROW of the portion of Alternative III-A it would replace. For the variation, 4 of the sites are NRHP-eligible. Along the portion of Alternative III-A that would be replaced by the variation, 18 of the 36 sites are NRHP-eligible, 12 are not eligible, and 6 are unevaluated. Based on the files search of the Ox Valley East Alternative Variation, the average percentage of cultural resources inventory coverage is approximately 39 percent of the files search area (2-mile transmission line corridor). Average site density for the files search area is approximately 0.003 sites per 100 acres inventoried. In comparison, the average percentage of inventory coverage is approximately 11 percent with average site density at 0.006 sites per 100 sites inventoried for the portion of Alternative III-A, which would be replaced by the alternative variation. A non-categorized segment of the Old Spanish Trail would be crossed by the alternative variation, whereas two non-categorized segments of the trail would be crossed by the portion of the alternative it would replace. Visibility of the alternative variation from the trail would be approximately 6 miles compared to 13 miles for the portion of Alternative III-A it would replace. The variation would be located approximately 3 miles from the Mountain Meadows Massacre Site and Mountain Meadows NHL. In comparison, the portion of Alternative III-A that would be replaced by the variation would be located 0.12 mile from the Mountain Meadows Massacre Site and Mountain Meadows NHL. Ground disturbance associated with the Ox Valley East Alternative Variation would be 276 acres compared to 252 acres of initial disturbance associated with the portion of Alternative III-A it would replace.
Ox Valley West Alternative Variation	A total of 3 cultural resources have been previously recorded within the 250-foot-wide transmission line ROW of the Ox Valley West Alternative Variation compared to 36 cultural resources previously recorded within the 250-foot-wide transmission line ROW of the portion of Alternative III-A it would replace. For the variation, 2 of the sites are NRHP-eligible. Along the portion of Alternative III-A that would be replaced by the variation, 18 of the 23 sites are NRHP-eligible, 12 are not eligible, and 6 are unevaluated. Based on the files search of the Ox Valley West Alternative Variation, the average percentage of cultural resources inventory coverage is approximately 43 percent of the files search area (2-mile transmission line corridor). Average site density for the files search area is approximately 0.003 sites per 100 acres inventoried. In comparison, the average percentage of inventory coverage is approximately 11 percent with average site density at 0.006 sites per 100 sites inventoried for the portion of Alternative III-A that would be replaced by the alternative variation. A non-categorized segment of the Old Spanish Trail would be crossed by the alternative variation, whereas two non-categorized segments of the trail would be crossed by the portion of the alternative it would replace. Visibility of the alternative variation from the trail would be approximately 6 miles compared to 13 miles for the portion of Alternative III-A it would replace. The variation would be located approximately 3 miles from the Mountain Meadows Massacre Site and Mountain Meadows NHL. In comparison, the portion of Alternative III-A that would be replaced by the variation would be located 0.1 mile from the Mountain Meadows Massacre Site and Mountain Meadows NHL. Ground disturbance associated with the Ox Valley West Alternative Variation would be 268 acres compared to 252 acres of initial disturbance associated with the portion of Alternative III-A it would replace.

Table 3.11-11 Summary of Region III Alternative Variation Impacts

Alternative Variation	Analysis
Pinto Alternative Variation[1]	A total of 40 cultural resources have been previously recorded within the transmission line ROW of the Pinto Alternative Variation compared to 39 cultural resources previously recorded within the 250-foot-wide transmission line ROW of the portion of Alternative III-A it would replace. For the variation, 13 of the sites are NRHP-eligible, 15 are not eligible, and 12 are unevaluated (BLM 2011). Along the portion of Alternative III-A that would be replaced by the variation, 20 of the 39 sites are NRHP-eligible, 13 are not eligible, and 6 are unevaluated. Based on the files search of the Pinto Alternative Variation, the average percentage of cultural resources inventory coverage is approximately 46 percent compared to 11 percent for the portion of Alternative III-A it would replace. No segment of the Old Spanish Trail would be crossed by the alternative variation, but a non-categorized segment would be crossed by the portion of the alternative it would replace. Although the alternative variation would not cross the trail, it would be visible from the trail for approximately 3 miles. In comparison, the portion of the alternative that would be replaced by the variation would be visible for 13 miles. This alternative variation would be located approximately 5 miles from the Mountain Meadows Massacre Site and Mountain Meadows NHL. In comparison, the portion of Alternative III-A that would be replaced by the variation would be located 0.1 mile from the Mountain Meadows Massacre Site and Mountain Meadows NHL. Ground disturbance associated with the Pinto Alternative Variation would be 449 acres compared to 381 acres of initial disturbance associated with the portion of Alternative III-A it would replace.

[1] The cultural resources information for the Pinto Alternative Variation was tiered off of the Sigurd to Red Butte No. 2 – 345kV Transmission Project EIS (BLM 2011). The Sigurd to Red Butte transmission line ROW is 350 feet; whereas, the TWE transmission line ROW is 250 feet. As such, the site counts for the Pinto Alternative Variation are based on a larger area and are not a direct comparison to the portion of Alternative III-A it would replace.

Sources: BLM 2011; SWCA 2012c,e, 2011c.

Alternative Connectors in Region III

Table 3.11-12 summarizes the impacts associated with the alternative connectors in Region III.

Table 3.11-12 Summary of Region III Alternative Connector Impacts

Alternative Connector	Analysis	Conclusion
Moapa Alternative Connector	A total of four cultural resources have been previously recorded within the 250-foot-wide transmission line ROW of this alternative connector. Of those, one is NRHP-eligible, one is not eligible, and two are unevaluated. The alternative connector would be visible from the Old Spanish Trail for approximately 1 mile. The 1-mile segment is categorized as NHT II (location verified and evident with minor alteration).	It is unknown at this time as to how many historic properties would be adversely affected by this alternative connector. Unavoidable adverse effects to historic properties would be minimized or mitigated as stipulated in the PA and through implementation of design features. Any previously unknown cultural resources (other than isolates) discovered during construction activities would be handled as detailed in the PA.
Avon Alternative Connector	One NRHP-eligible cultural resource has been previously recorded within the 250-foot-wide transmission line ROW of the Avon Alternative Connector.	Same as described above for the Moapa Alternative Connector.

Sources: SWCA 2012c,d,e, 2011c,d.

Alternative Ground Electrode Systems in Region III

The southern ground electrode system would be necessary within 100 miles of the southern terminal as discussed in Chapter 2.0. Although the location for this system has not been determined, conceptual locations and connections to the alternative routes have been provided in the Project POD. At this time,

no files searches have been completed for the alternative ground electrode system locations in Region III. Cultural resources inventories, including a files search, would be conducted prior to construction. If historic properties are located within proposed disturbance areas and would be adversely affected, the properties would be avoided by Project redesign. However, if avoidance is not feasible, adverse effects would be minimized or mitigated as stipulated in the PA and through implementation of design features. Unanticipated discoveries would be handled as outlined in the PA.

Table 3.11-13 provides a summary of impacts associated with the four combinations of alternative route and location possibilities for the southern ground electrode system. Included in the table are disturbance acreages, miles of transmission line and access road, and the number of historic roads or trails crossed by the siting area and/or access road. It should be noted that direct impacts to historic properties could increase in relation to the amount of ground disturbance associated with construction of the electrode systems.

Table 3.11-13 Summary of Region III Alternative Ground Electrode System Location Impacts

Alternative Ground Electrode System Locations	Analysis
Mormon Mesa- Carp Elgin Rd (Alternative III-A)	Ground disturbance associated with this alternative ground electrode system location would be 91 acres. There would be 6 miles of transmission line and 7 miles of access road. The access road associated with this ground electrode system would intersect and parallel the Old Spanish Trail for approximately 4.45 miles. Of those 4.45 miles, 3.65 miles are categorized as NHT I (location verified, evident, and unaltered), 0.7 mile as NHT II (location verified and evident with minor alteration), and 0.1 mile as NHT IV (location verified and permanently altered).
Halfway Wash –Virgin River (Alternative III-A)	Ground disturbance associated with this alternative ground electrode system location would be 84 acres. There would be 4 miles of transmission line and 5 miles of access road. No segments of the Old Spanish Trail would be crossed by this ground electrode system.
Halfway Wash East (Alternative III-A)	Ground disturbance associated with this alternative ground electrode system location would be 104 acres. There would be 8 miles of transmission line and 10 miles of access road. No segments of the Old Spanish Trail would be crossed by this alternative ground electrode system.
Mormon Mesa-Carp Elgin Rd (Alternative III-B)	Ground disturbance associated with this alternative ground electrode system location would be 103 acres. There would be 8 miles of transmission line and 10 miles of access road. The Mormon Mesa-Carp Elgin Rd (Alternative III-B) alternative ground electrode system associated access road would intersect and parallel the Old Spanish Trail for approximately 4.45 miles. Of those 4.45 miles, 3.65 miles are categorized as NHT I (location verified, evident, and unaltered), 0.7 mile as NHT II (location verified and evident with minor alteration), and 0.1 mile as NHT IV (location verified and permanently altered).
Halfway Wash –Virgin River (Alternative III-B)	Ground disturbance associated with this alternative ground electrode system location would be 93 acres. There would be 6 miles of transmission line and 7 miles of access road. No segments of the Old Spanish Trail would be crossed by this alternative ground electrode system.
Halfway Wash East (Alternative III-B)	Ground disturbance associated with this alternative ground electrode system location would be 102 acres. There would be 8 miles of transmission line and 10 miles of access road. No segments of the Old Spanish Trail would be crossed by this alternative ground electrode system.
Meadow Valley 2 (Alternative III-C)	Ground disturbance associated with this alternative ground electrode system location would be 174 acres. There would be 22 miles of transmission line and 29 miles of access road. No segments of the Old Spanish Trail would be crossed by the Meadow Valley 2 alternative ground electrode system.
Delta (Design Option 2)	Ground disturbance associated with this alternative ground electrode system location would be 160 acres. There would be 19 miles of transmission line and 23 miles of access road. No segments of the Old Spanish Trail would be crossed by the Delta ground electrode system.

Sources: SWCA 2012a,c,d, 2011a,c,d.

3.11.6.6 Region IV

Construction, operation, and decommissioning impacts in Region IV and the means to minimize or mitigate those impacts would be the same as those discussed in Section 3.11.6.2, Impacts Common to All Alternative Routes and Associated Components. However, the magnitude of impacts would vary depending on the amount of ground disturbance, the length of the transmission line, and the visibility of the transmission line and other aboveground facilities. **Table 3.11-14** provides a comparison of site totals (within the 250-foot-wide transmission line ROW), NRHP eligibility, historic trail crossings, inventory coverage, site density, disturbance acreage, and miles of transmission line associated with each alternative route in Region IV.

Table 3.11-14 Summary of Region IV Alternative Route Impacts

Parameter		Alternative IV-A	Alternative IV-B	Alternative IV-C
Site Types	Prehistoric	10	7	7
	Historic	8	16	29
	Multi-component	0	0	0
	Potential TCPs[1]	8	7	7
	No Information	1	0	0
Site Totals[2]		27	30	43
Historic Trail Crossed	Old Spanish Trail	No segments crossed	No segments crossed	No segments crossed
Average Percent Inventory Coverage		39 percent	34 percent	32 percent
Average Site Density[3]		0.007 sites per 100 acres inventoried	0.005 sites per 100 acres inventoried	0.005 sites per 100 acres inventoried
Initial Disturbance[4]		566 acres	573 acres	663 acres
Miles of Transmission Line and Access Roads		37 miles; 60 miles	39 miles; 71 miles	44 miles; 74 miles
NRHP Status[5]	Listed	2	0	0
	Eligible for Listing	6	12	17
	Not Eligible	7	5	12
	Unevaluated	4	6	7

[1] In general, sites in which Native American Tribes attach traditional religious and cultural significance are referred to as "TCPs" by the Tribes. TCPs can include, but are not limited to, stone cairns, stone circles, rock shelters, rock art, prehistoric campsites, and village sites. At this time, no tribal consultation regarding verification of these sites as TCPs or other sites of importance to the Tribes has occurred. Until consultation with Native American Tribes to evaluate these sites has occurred, these sites are considered "potential TCPs" based on their site type and description.

[2] Site totals are for the 250-foot-wide transmission line ROW.

[3] Site densities are more likely reflective of inventory coverage rather than geographic trends (e.g., proximity to water).

[4] In general, direct impacts to historic properties could increase in relation to the amount of ground disturbance associated with construction.

[5] The discrepancy between the overall site total and the total for the NRHP-eligibility status is due to the fact that the potential TCPs are also prehistoric sites and are therefore counted twice. As such, the difference between the overall site total and total for eligibility is equal to the number of potential TCPs.

Sources: SWCA 2012d,e, 2011d.

Alternative IV-A (Applicant Proposed/Agency Preferred)

Under Alternative IV-A, there would be approximately 566 acres of initial ground disturbance with 37 miles of transmission line and 60 miles of access roads. A total of 27 previously recorded cultural resources have been identified within the 250-foot-wide transmission line ROW of Alternative IV-A, including 10 prehistoric sites, 8 historic sites, 8 potential TCPs, and 1 site with no descriptive information. The majority of prehistoric sites are open lithic and open architectural (e.g., stone circles,

stone features), while the majority of historic sites are artifact scatters and structures. Of the previously recorded sites, 2 are listed on the NRHP, 6 are eligible for the NRHP, 7 are not eligible, and 4 are unevaluated. It should be noted that unevaluated sites are considered eligible until a determination of NRHP eligibility can be made. A historic ditch/canal and prehistoric open lithic site are listed on the NRHP and are located within the 250-foot-wide transmission line ROW. Average site density is 0.007 sites per 100 acres inventoried with a comparatively high average inventory coverage of 39 percent.

The Old Spanish Trail would not be crossed by or parallel to Alternative IV-A.

Alternative IV-B

Under Alternative IV-B, there would be approximately 573 acres of initial ground disturbance with 39 miles of transmission line and 71 miles of access roads. A total of 30 previously recorded cultural resources have been identified within the 250-foot-wide transmission line ROW of Alternative IV-B, including 7 prehistoric sites, 16 historic sites, and 7 potential TCPs. Prehistoric sites mainly consist of sheltered lithic and open lithic sites, while historic sites are mainly habitation sites, roads, and structures. Of the previously recorded sites, 12 are eligible for the NRHP, 5 are not eligible, and 6 are unevaluated. Average site density is 0.005 sites per 100 acres inventoried with an average inventory coverage of 34 percent.

The Old Spanish Trail would not be crossed by or parallel to Alternative IV-B.

Alternative IV-C

Under Alternative IV-C, there would be approximately 663 acres of initial ground disturbance with 44 miles of transmission line and 74 miles of access roads. A total of 43 previously recorded cultural resources have been identified within the 250-foot-wide transmission line ROW of Alternative IV-C, including 7 prehistoric sites, 29 historic sites, and 7 potential TCPs. Open and sheltered lithic sites comprise the majority of prehistoric sites, while artifact scatters, roads, and structures comprise the majority of historic sites. Of the previously recorded sites, 17 are eligible for the NRHP, 12 are not eligible, and 7 are unevaluated. Average site density is 0.005 sites per 100 acres inventoried with a comparatively low average inventory coverage of 32 percent.

The Old Spanish Trail would not be crossed by or parallel to Alternative IV-C.

Region IV Conclusion

Alternative IV-A would have less acres of ground disturbance than Alternatives IV-B and IV-C. Decreased ground disturbance could decrease the potential for direct impacts to known and unknown historic properties compared to the other alternatives. Alternative IV-A also has a smaller number of previously recorded NRHP-eligible and unevaluated sites than the other alternatives, with an average site density of 0.007 sites per 100 acres inventoried and average inventory coverage of 39 percent.

Alternative Variations in Region IV

Table 3.11-15 provides a comparison of impacts associated with the alternative variations in Region IV.

Table 3.11-15 Summary of Region IV Alternative Variation Impacts

Alternative Variation	Analysis
Marketplace Alternative Variation	No cultural resources have been previously recorded within the 250-foot-wide transmission line ROW of this alternative variation, compared to one previously recorded cultural resources along the portion of Alternative IV-B that would be replaced by the variation. The one cultural resource is eligible for the NRHP. Based on the files search of the Marketplace Alternative Variation, the average percentage of cultural resources inventory coverage is approximately 34 percent of the files search area (2-mile transmission line corridor). Average site density for the files search area is approximately 0.001 sites per 100 acres inventoried. In comparison, the average percentage of inventory coverage is approximately 36 percent with average site density at 0.001 sites per 100 sites inventoried for the portion of Alternative IV-B would be replaced by the alternative variation. Ground disturbance associated with the Marketplace Alternative Variation would be 109 acres compared to 82 acres of initial disturbance associated with the portion of Alternative IV-B it would replace.

Source: SWCA 2011d.

Alternative Connectors in Region IV

Table 3.11-16 summarizes the impacts associated with the alternative connectors in Region IV.

Table 3.11-16 Summary of Region IV Alternative Connector Impacts

Alternative Connectors	Analysis	Conclusion
Sunrise Mountain Alternative Connector	No cultural resources have been previously recorded within the alternative connector 250-foot-wide transmission line ROW.	It is unknown at this time as to how many historic properties would be adversely affected by this alternative connector. Unavoidable adverse effects to historic properties would be minimized or mitigated as stipulated in the PA and through implementation of design features. Any previously unknown cultural resources (other than isolates) discovered during construction activities would be handled as detailed in the PA.
Lake Las Vegas Alternative Connector	A total of three cultural resources, including the Las Vegas Wash Archaeological District, have been previously recorded within the 250-foot-wide transmission line ROW of this alternative connector. Two of the three resources are eligible for the NRHP.	Same conclusion as described above for the Sunrise Mountain Alternative Connector.
Three Kids Mine Alternative Connector	A total of four cultural resources, including the Las Vegas Wash Archaeological District, have been previously recorded within the 250-foot-wide transmission line ROW of this alternative connector. One of the four resources is eligible for the NRHP.	Same conclusion as described above for the Sunrise Mountain Alternative Connector.
River Mountains Alternative Connector	A total of one cultural resource has been previously recorded within the 250-foot-wide transmission line ROW. The one cultural resource is eligible for the NRHP.	Same conclusion as described above for the Sunrise Mountain Alternative Connector.

Table 3.11-16 Summary of Region IV Alternative Connector Impacts

Alternative Connectors	Analysis	Conclusion
Railroad Pass Alternative Connector	A total of three cultural resources have been previously recorded within the 250-foot-wide transmission line ROW of this alternative connector. Of these, one is eligible for the NRHP, and two are not eligible.	Same conclusion as described above for the Sunrise Mountain Alternative Connector.

Source: SWCA 2011d.

3.11.6.7 Residual Impacts

The Project would result in the loss of cultural resources that are not eligible for the NRHP and located in proposed disturbance areas. Although these sites would be recorded to BLM standards and the information integrated into local and statewide archaeological databases, the sites ultimately would be destroyed by construction. It currently is unknown how many historic properties (including TCPs or other properties of tribal importance) would be affected by the Project. Design features for cultural resources protection would be followed. Adverse effects to historic properties would be avoided or, if avoidance is not feasible, minimized or mitigated as stipulated in the PA. Mitigation could include data recovery, the use of landscaping to minimize visual effects, development of interpretive materials, or other measures determined by the BLM in consultation with the SHPO and interested parties and Tribes. Some of the cultural value associated with these properties cannot be fully mitigated; therefore, it is anticipated that residual impacts to these properties would occur.

Accidental disturbance, vandalism, and illegal collecting of artifacts would be expected to increase as a result of increased access.

3.11.6.8 Impacts to Cultural Resources from the No Action Alternative

Under the No Action Alternative, the proposed facilities that would comprise the Project would not be developed. No additional ground-disturbance would occur. Potential direct, indirect, and visual effects to historic properties, including TCPs and properties of traditional religious and cultural importance to Native Americans, located within the APE or within the viewshed of the Project would not occur.

3.11.6.9 Irreversible and Irretrievable Commitment of Resources

Historic properties (including TCPs and other properties of tribal importance) could be irreversibly and irretrievably lost if inventory, avoidance, and/or mitigation efforts are not sufficient to identify and protect these properties.

3.11.6.10 Relationship Between Local Short-term Uses and Long-term Productivity

The Project would result in the loss of short-term use and long-term productivity of cultural resources not eligible for the NRHP and located in proposed disturbance areas. For historic properties (including TCPs and other properties of tribal importance) located in proposed disturbance areas that cannot be avoided, data recovery or other forms of mitigation would be conducted prior to construction. Mitigation of impacts to TCPs and other properties of tribal importance would be developed in consultation with interested Tribes. The scientific information obtained through data recovery would be preserved for the long term. However, the site itself ultimately would be lost. There would be a long-term loss of cultural resources due to illegal collecting and vandalism associated with increased human activity in, and access to, the analysis area.